CURRENT MARKET OUTLOOK
2016–2035

BOEING

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OUTLOOK ON A PAGE

DELIVERIES BY AIRPLANE SIZE AND REGION

Region	Asia	North America	Europe	Middle East	Latin America	C.I.S.	Africa	World
World Economy (GDP %)	4.1%	2.3%	1.8%	3.8%	2.9%	2.5%	3.7%	2.9%
Airline Traffic (RPK %)	6.0%	3.1%	3.7%	5.9%	5.8%	3.7%	6.1%	4.8%
Airplane Fleet (%)	5.0%	1.8%	2.7%	4.8%	4.4%	3.1%	3.8%	3.6%
Market Size								
Deliveries	15,130	8,330	7,570	3,310	2,960	1,170	1,150	39,620
Market Value ($B)	2,350	1,030	1,120	770	350	140	170	5,930
Average Value ($M)	160	120	150	230	120	120	150	150
Unit Share	38%	21%	19%	8%	7%	3%	3%	100%
Value Share	40%	17%	19%	13%	6%	2%	3%	100%
New Airplane Deliveries								
Large Widebody	130	20	30	320	-	30	-	530
Medium Widebody	1,490	420	570	850	30	50	60	3,470
Small Widebody	2,060	930	960	560	260	90	240	5,100
Single Aisle	11,160	5,440	5,880	1,510	2,530	810	810	28,140
Regional Jets	290	1,520	130	70	140	190	40	2,380
Total	15,130	8,330	7,570	3,310	2,960	1,170	1,150	39,620
Market Value (2015 $B catalog prices)								
Large Widebody	50	10	10	140	-	10	-	220
Medium Widebody	520	160	200	320	10	20	20	1,250
Small Widebody	560	220	260	150	60	30	70	1,350
Single Aisle	1,210	570	640	160	270	70	80	3,000
Regional Jets	10	70	10	-	10	10	-	110
Total	2,350	1,030	1,120	770	350	140	170	5,930
2015 Fleet								
Large Widebody	270	100	170	140	-	50	10	740
Medium Widebody	540	320	360	320	20	20	60	1,640
Small Widebody	860	750	440	250	140	140	80	2,660
Single Aisle	4,540	4,010	3,370	590	1,280	650	430	14,870
Regional Jets	140	1,730	270	70	110	170	110	2,600
Total	6,350	6,910	4,610	1,370	1,550	1,030	690	22,510
2035 Fleet								
Large Wide-body	70	60	100	320	-	50	-	700
Medium Wide-body	1,590	460	610	840	40	70	80	3,690
Small Wide-body	2,340	1,150	1,140	610	350	170	300	6,060
Single Aisle	12,560	6,630	5,920	1,660	3,110	1,380	1,020	32,280
Regional Jets	310	1,520	150	80	160	230	60	2,510
Total	16,970	9,820	7,920	3,510	3,660	1,900	1,460	45,240

LONG-TERM MARKET OUTLOOK

LONG-TERM MARKET OUTLOOK

As Boeing celebrates the past with our centennial anniversary, we continue to look to the future with our Current Market Outlook. This publication is The Boeing Company's long-term forecast of passenger and cargo traffic and the number of airplanes necessary to support that expectation. Our Current Market Outlook is one of the longest published and most accurate forecasts in the aviation industry.

These predictions are used to shape the company's product strategy and guide long-term business planning, as well as to share our view with the public, informing airlines, suppliers, and the financial community of industry trends. We first shared Current Market Outlook in the early 1960s at a Boeing-supplier conference. Since then, we have updated our market outlook annually to freshly factor in the industry's changing market forces.

YEAR IN REVIEW

For the aviation industry, 2015 was an outstanding year. Key metrics increased across the board, and we expect to see this trend persist, with continued low oil prices anticipated to save the industry tens of billions of dollars in 2016 alone.

According to the International Air Transport Association, passenger traffic as measured by revenue passenger kilometers (RPK) was up approximately 7.4 percent, and capacity was up approximately 6.7 percent. The result was record load factors of more than 80 percent worldwide.

Because of lower oil prices and various increased efficiencies, airlines estimated net profits of $35 billion for 2015—which was also a good year for airplane manufacturers such as Boeing and Airbus. Over 1,400 jet airplanes were delivered, and airlines ordered more than 2,400 new airplanes. These trends are expected to continue in 2016.

MARKET FORCES

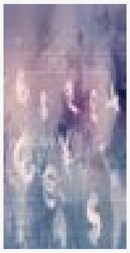
Global economic expansion is expected to continue, and although the overall picture is good, there will be regional challenges. North America is leading the global economic acceleration, and the Eurozone is finally starting to gain economic momentum. In the past, emerging markets have driven economic growth, but we are now starting to see some regional divergence from this trend.

EFFECTS OF MARKET FORCES

Our long-term outlook incorporates the effects of market forces on the growth of the aviation industry. Based on what has happened historically and what is expected to occur, world GDP is anticipated to grow at 2.9 percent annually over the next 20 years. During the same period, passenger traffic is predicted to grow by 4.8 percent and air cargo traffic by 4.2 percent.

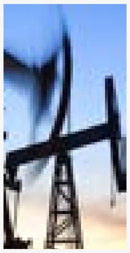
2016 market expectations

Growing, efficient and profitable utilization of fleets and capacity

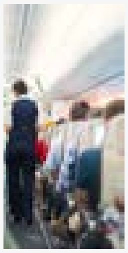


GDP GROWTH
2.4%

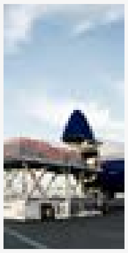
TRADE GROWTH
3-4%



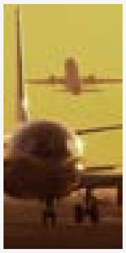
OIL PRICES
$40-50/bbl



PASSENGER TRAFFIC
GROWTH
6.2%



CARGO TRAFFIC
GROWTH
2-3%



AIRLINE PROFITS
$39B

Demand by size

Airplanes in service 2015 to 2035

	2015	2035
Large widebody	740	700
Medium widebody	1,640	3,690
Small widebody	2,660	6,060
Single aisle	14,870	32,280
Regional jets	2,600	2,510
Total	22,510	45,240

Demand by size 2016 to 2035

	New Airplanes	Value ($B)*
Large widebody	530	220
Medium widebody	3,470	1,250
Small widebody	5,100	1,350
Single aisle	28,140	3,000
Regional jets	2,380	110
Total	39,620	5,930

SHAPE OF THE MARKET

Over the next 20 years, Boeing is forecasting a need for over 39,600 airplanes valued at more than $5.9 trillion. Aviation is becoming more diverse, with approximately 38 percent of all new airplanes being delivered to airlines based in the Asia region. An additional 40 percent will be delivered to airlines in Europe and North America, with the remaining 22 percent to be delivered to the Middle East, Latin America, the Commonwealth of Independent States, and Africa.

Single-aisle airplanes command the largest share of new deliveries, with airlines needing over 28,100. These new airplanes will continue to stimulate growth for low-cost carriers and will provide required replacements for older, less-efficient airplanes. In addition, 9,100 new widebody airplanes will be delivered, which will allow airlines to serve new markets more efficiently than in the past.

Demand by region

Key indicators 2015 to 2035

Growth measures (%)	
World economy GDP	2.9
Airplane fleet	3.6
Number of passengers	4.0
Airline traffic RPK	4.8
Cargo traffic RTK	4.2

Demand by region 2016 to 2035

Region	New Airplanes	Value ($B)*
Asia Pacific	15,130	2,350
North America	8,330	1,030
Europe	7,570	1,120
Middle East	3,310	770
Latin America	2,960	350
CIS	1,170	140
Africa	1,150	170
Total	**39,620**	**5,930**

*$ values thoughout the CMO are catalog prices

BUILDING TOMORROW'S PLANES TODAY



BUILDING TOMORROW'S PLANES TODAY

"BOEING HAS ALWAYS BUILT TOMORROW'S AIRPLANES TODAY!"

That phrase is from a late-1930s advertisement for the Boeing Model 314 Clipper, and it applies still today in 2016. Which proves two things: First, Boeing has always had some pretty smart advertising people. But second—and more important—it reveals the fundamental truth about The Boeing Company's leadership throughout its first century of existence, beginning with the first B & W lifting off the waters of Lake Union in 1916. Boeing has always been the leader in customer satisfaction, technical thought, and innovation. Those qualities, sustained over a century, are unmatched by any other aviation company. The following examples illustrate The Boeing Company's unassailable position as aviation's leader for the past 100 years.

THE ROUTE OPENER

The Model 40A was used by airlines to carry mail for the US Post Office in the 1920s, replacing converted military de Havillands that had carried mail since 1918. Twenty-four of the Model 40A mail planes were ready to fly July 1, 1927, for their first day of airmail service between San Francisco and Chicago—a trip that took roughly 22 hours and involved five different airplanes.

It should be enough to say that the new airplane's tremendous innovation of an air-cooled engine sufficiently reduced the weight of the airplane to make it the top choice for mail delivery. Additionally, the Model 40A, under the umbrella of the Boeing Air Transport Company, became one of the United State's first passenger airliners. In a small compartment alongside the mail bags, the Model 40A could carry two passengers. The first passenger was Jane Eads, a reporter for the Chicago Herald-Examiner, who wrote a note on a photo of the occasion: "Here's to Boeing Air Transportation on my arrival at San Francisco, July 2, 1927, as the first passenger to travel on the transcontinental service."

Today, in the tradition of the route-opening Model 40A, the 787 Dreamliner serves more than 430 routes, with 100 of those being new nonstop markets. Since the 787's entry to service in 2011, more than 83 million passengers have flown on the airplane, traveling to their chosen destinations with unparalleled convenience.

THE WORKHORSE OF THE FLEET

The DC-3 has been called the greatest airplane of all time, undoubtedly a reference to its workhorse reputation as well as its innovation and longevity. The Douglas DC-3 made air travel popular and airline profits possible. Design work began in 1934 at the insistence of C.R. Smith, president of American Airlines. Smith wanted two new planes—a longer DC-2 to carry more day passengers and another with railroad-type sleeping berths to carry overnight passengers. So, the DC-3 evolved from a classic DC-2 version to become bigger and better, incorporating new technology. Innovation for the DC-3 airplane produced the Douglas Sleeper Transport—also called Skysleepers by airline customers—which was the height of luxury. Fourteen plush seats (among the first herringbone, lie-flat seats in modern aviation) in four main compartments could be folded in pairs to form seven berths, while seven more folded down from the cabin ceiling. In addition to the 455 DC-3 commercial transports that were built for airlines, 10,174 were produced as C-47 military transports during World War II. Today, more than six decades after the last one was delivered, hundreds of DC-3s are still flying and earning their keep carrying passengers or cargo. The workhorse legacy pioneered by the DC-3 continues today in the 737 family—with thousands of 737s in service and thousands more to come. And starting in 2017, the 737 MAX, with its efficiency, reliability, and passenger appeal, will redefine "workhorse" for decades to come.

THE FLAGSHIP AIRPLANE

Thirty years before the iconic 747 first took to the skies as a flagship for airlines worldwide, Boeing built its first flagship—the Model 314 Clipper. It was an airplane that excelled in long-distance flying as well as passenger comfort and style. As air travel became popular during the mid-1930s and passengers wanted to fly across the ocean, Pan American Airlines asked for a long-range, four-engine flying boat. In response, Boeing developed the Clipper, named after the great ocean-going sailing ships. The Model 314 had a 3,500-mile range and made the first scheduled trans-Atlantic flight on June 28, 1939. By the year's end, Clippers were routinely flying across the Pacific, navigating using sextants through a dome in the top of the fuselage. Clipper passengers looked down at the sea from large windows and enjoyed the comforts of dressing rooms, a dining salon that could be turned into a lounge, and a bridal suite. The Clipper's 74 seats converted into 40 berths for overnight travelers. Four-star hotels catered gourmet meals that were served from the Clipper's galley. Boeing built 12 Model

314s between 1938 and 1941. Production was interrupted by World War II and, sadly, none of the 12 Clippers have survived. Although the Clipper's tenure as the Boeing flagship was short-lived, the company's flagship tradition has persisted through time and technology, now moving gracefully from the 747 to another innovative Boeing success story—that of the 777.

THE INNOVATOR

The 707-320 Intercontinental was the visionary outcome of Boeing President William Allen and his leadership team staking the company's future on commercial-aviation jets. Innovation leading to increased efficiency, greater range, and customer-satisfying features defined the Boeing package then, as it does now. The competition of the day, however, was not sitting idle. Leadership at Douglas saw the potential of the 707 and began work on its own commercial jet—the DC-8. Douglas widened its fuselage to accommodate six-abreast seating, compared with the five-abreast of the early 707 design. Boeing then made a decision to widen the 707 fuselage by four inches, making it one-inch wider than the DC-8's. Boeing's next step was to introduce the 707-320

Intercontinental, with its larger wing, longer fuselage, and increased range. The changes were what the airline customers needed and wanted, and orders began pouring in for the 707. The 707-320 was the bestselling variant of the 707, with a total of 580 sold.

Today, when taking a look at the 777X family, The Boeing Company's continuing vision and competitive pattern of winning is undeniable. The 777X parallels the innovation story of the 707-320, but with a bigger wing, more-efficient engines, and increased range—proof that 100 years of experience comes in handy.

WE'VE BEEN DOING THIS FOR 100 YEARS

To be able to say, "We've been doing this for 100 years" is a profound advantage in the commercial aviation business. Boeing's century-long history offers a deep reservoir for technological leadership that delivers continuous innovation, helping our airline customers make their passenger customers happy. Reviewing Boeing's history leads to the constant refrain, "How did they do that?" We expect that question will be asked many times throughout Boeing's second century. Boeing will always build tomorrow's airplanes today!

BUSINESS & MARKET ENVIRONMENT

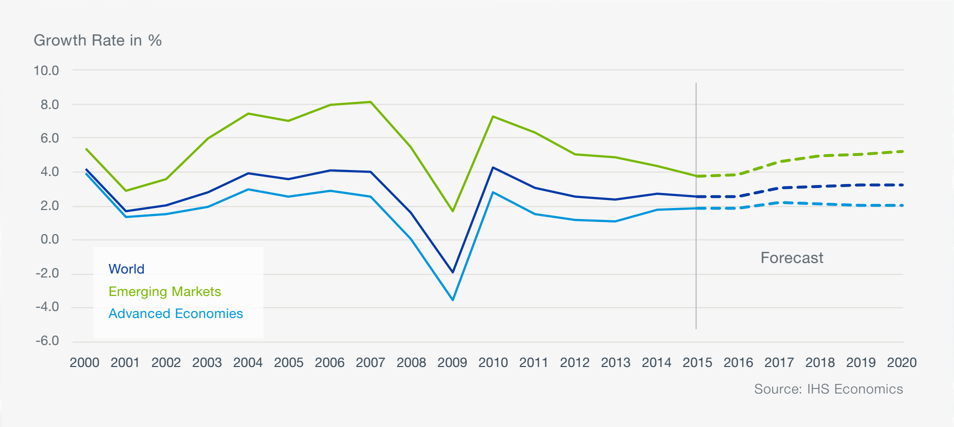
BUSINESS AND MARKET ENVIRONMENT

ECONOMIC ENVIRONMENT

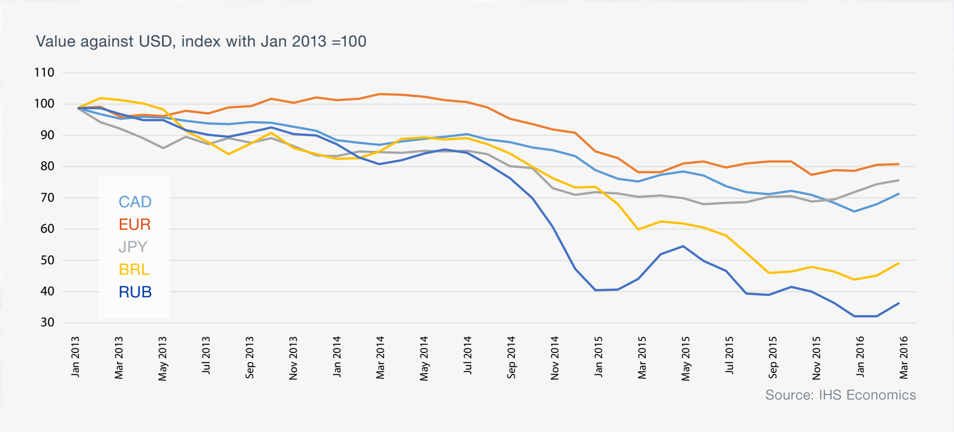
While longer-term factors remain in place to support accelerating economic growth, the world economy in 2015 was unable to break out of the recent pattern of steady but below long-term average growth. Moreover, GDP performance was unevenly distributed across countries. In particular, low commodity prices, political uncertainties, and financial market volatilities made it difficult for some countries to live up to their economic potential. Oil prices averaged around US$50 in 2015, roughly half the 2014 average value. Prices for many other commodities plummeted as well. Driven predominantly by supply-side factors, lower oil prices were likely a net positive for the global economy; yet, from a more nuanced perspective, while these lower prices have been a major benefit for some countries, they have created a formidable challenge for others. Most advanced economies, such as those of the United States and the European Union, benefit from the lower cost of commodity imports and see their economies driven by strong consumer spending. But growth isn't solely the result of low oil prices, as labor and housing markets have improved and monetary support remains strong—despite the US Federal Reserve raising interest rates for the first time since the Great Recession.

Among emerging markets there are many beneficiaries of lower commodity prices, as evidenced by China, where consumption remains strong and supportive of air travel growth amid a slowdown in aggregate economic activity. On the other hand, many emerging markets that are more dependent on export revenue from natural resource extraction are seeing increased economic pressure. In many cases, declining export revenue goes hand in hand with slower GDP growth, increased capital outflow, and depreciated exchange rates. In several countries, political uncertainties exacerbate the fragile

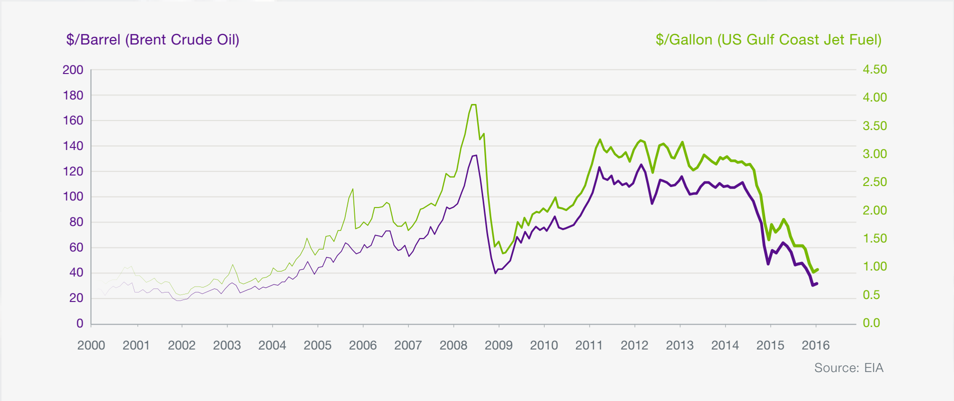
Global GDP growth



Exchange rates: US Dollar strength continues



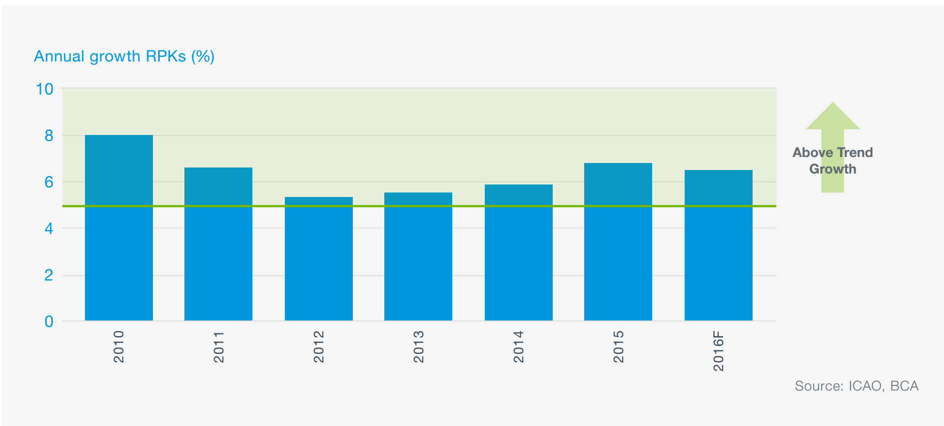
Oil volatility returns



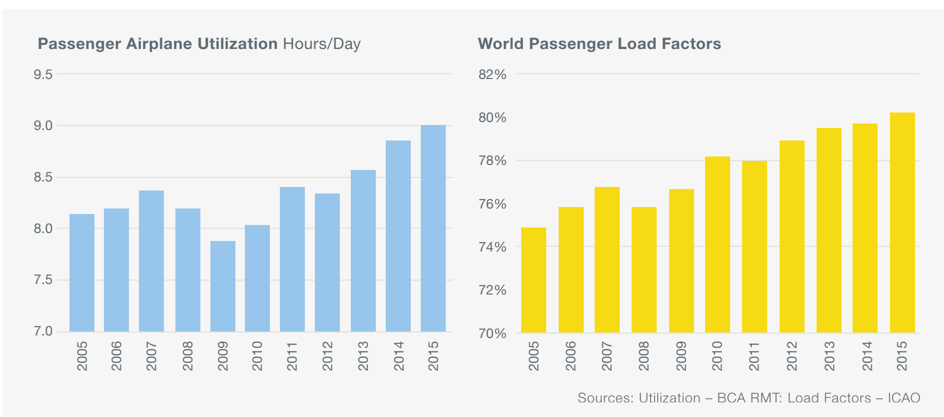
economic situation and further reduce near-term growth prospects by lowering investment incentives. These developments highlight the need for many countries to diversify and reform economic systems to enhance and fully realize their growth potential.

Despite current challenges, IHS Economics sees global growth accelerating significantly and sustainably for the remainder of the decade. This acceleration will be led by a growth uptick in emerging markets and further sustained growth in large advanced economies. The latter, in particular, will benefit from central bank support, reduced economic-policy frictions surrounding European sovereign debt challenges, and the strengthening consumption effects of low energy prices in a global environment of plentiful but underutilized production capacity.

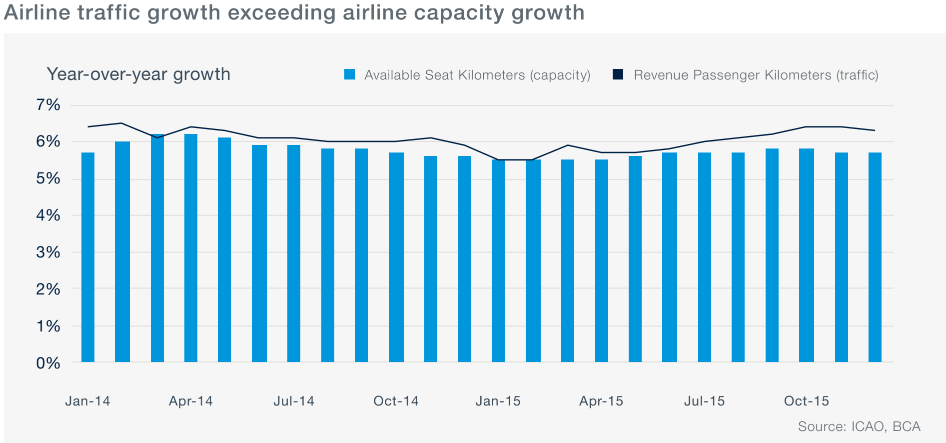
Passenger traffic resilient due to multiple factors



Airline Productivity Rising: Assets are being efficiently utilized



Airline traffic growth exceeding airline capacity growth

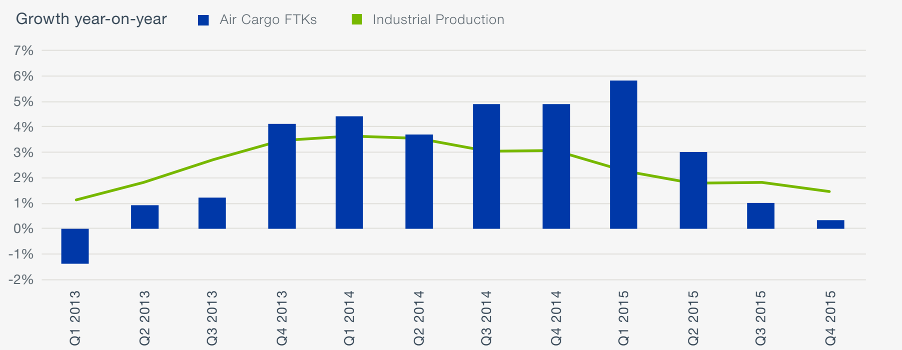


FAST GROWING AND RESILIENT PASSENGER MARKETS

Passenger traffic continues to show impressive expansion and resilience on a global scale. 2015 marked a continued acceleration in growth and the sixth year of above-trend growth, despite an economic backdrop characterized by tepid GDP growth. Globally, load factors are around 80 percent and utilization remains at or near record levels. Demand growth outpaced capacity in all major world regions except for the Middle East, where double-digit traffic growth was surpassed by even higher-capacity additions. One likely reason for the strong market performance can be found in the composition of GDP growth in many parts of the world. Large markets such as the United States, Europe, or China all see relative strength in the consumer-related parts of the economy. Although a sharp slowdown in specific and less travel-intensive sectors are a drag on overall GDP numbers, most citizens enjoy improved consumption opportunities and are willing to increase spending on services such as travel and tourism. This trend is reinforced by the removal of structural impediments to travel, such as visa restrictions, unlocking demand for travel warranted by rising income levels of an expanding global middle class. Another key factor is the increased efficiency of airline business models in bringing air travel to consumers around the world.

Low-cost carriers continue to expand into new markets while other airlines use their geographic location to increase ease of global travel or offer new routes, enabled by new-technology airplanes and more efficient operations. In addition, current low fuel prices allow airlines to manage capacity and fares to meet and stimulate demand more effectively.

Air cargo market



Sources: IATA Carrier Tracker (industry international scheduled freight) and A4A US domestic cargo traffic, Oxford Economics

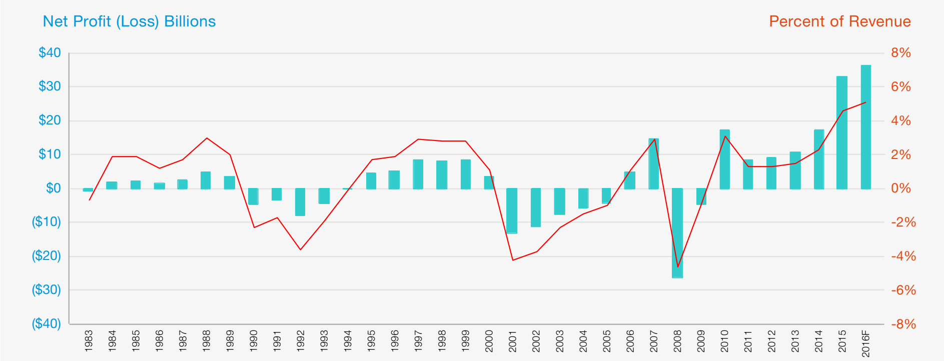
AIR CARGO MARKETS LOOKING TO RESUME GROWTH

Despite a strong start to the year when the US west coast seaport troubles boosted air cargo temporarily, 2015 was a year of many challenges for air cargo. Global trade stalled towards the middle of the year amid uncertainty emanating from Chinese manufacturing and globally weak industrial production. With fewer goods produced around the world, there was less trade. However, throughout the second half of the year, the global trade picture has been modestly improving. There are now signs that international trade is picking up speed throughout 2016 and major economic forecasters see growth averaging around 4 percent for the remainder of the decade. Globalization might not witness the extraordinary expansion of the early 2000s, but expansion isn't over. Trade will allow productivity increases in global-production chains and expand availability and variety of products to consumers around the world. The many benefits of a global and open economy have motivated policy makers to advance free-trade initiatives of historic proportions. If rapidly implemented, the Trans-Pacific Partnership and the Transatlantic Trade and Investment Partnership will stimulate global commerce and provide long-run growth potential for international trade and the air cargo industry.

RECORD PROFITABILITY HIGHLIGHTS HEALTHY AIRLINE FINANCIALS

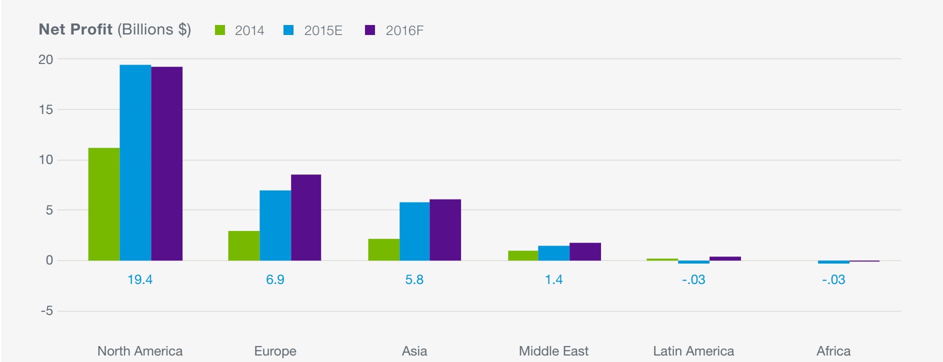
With 2015 average fuel prices about 50 percent lower than in 2014, airline profitability has been elevated to record levels. Net profits reached around US $35 billion in 2015. With further fuel-price declines and the reduced impact of fuel-price hedging, this number is likely to be surpassed in 2016. Net margins improved globally as well, reaching 4.9 percent in 2015 and expected to top 5 percent in 2016—numbers not seen for almost a half century. With a strong local currency and a consolidated industry structure, US airlines are the most profitable on average, accounting for more than half the global industry's profits. For airlines outside the United States, currency depreciation often moderated the gains from fuel prices, as did more intense competition. Airlines are using the improved financial position to undertake productivity-enhancing investments that will allow future healthy growth. These investments include interior upgrades, operational improvements, and acquisition of new, efficient airplanes.

Industry experiencing record profitability



Source: ICAO (1983 – 2013) and IATA December 2015 (2014-15)

North America leading industry profitability



Source: IATA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TRAFFIC & MARKET OUTLOOK

TRAFFIC & MARKET OUTLOOK

METHODOLOGY

Current Market Outlook is a noncyclical forecast that looks beyond short-term market shocks to address underlying trends in the aviation industry. Its travel-demand forecast covers 63 intra- and interregional traffic flows.
Different traffic flows have various driving influences and are modeled accordingly. For example, some flows may emphasize development GDP per capita (economic activity) while other flows may be influenced by local-market factors, such as industry consolidation.
Generally, various influences on a region's air-travel growth can be grouped into three categories: economic-activity, ease-of-travel, and local-market factors. Some factors of market demand, such as GDP, are easy to quantify; but others—for example, liberalization—are more difficult to assess and may be causing an even greater effect on market performance. When such factors are present, forecasting air-transport demand requires deeper analysis.

Economic activity is the most easily understood and quantified key factor in traffic flow. It includes:

- National and regional GDP development.
- Per-capita income and population trends.
- Labor-force composition.
- International trade, economic, and investment links.

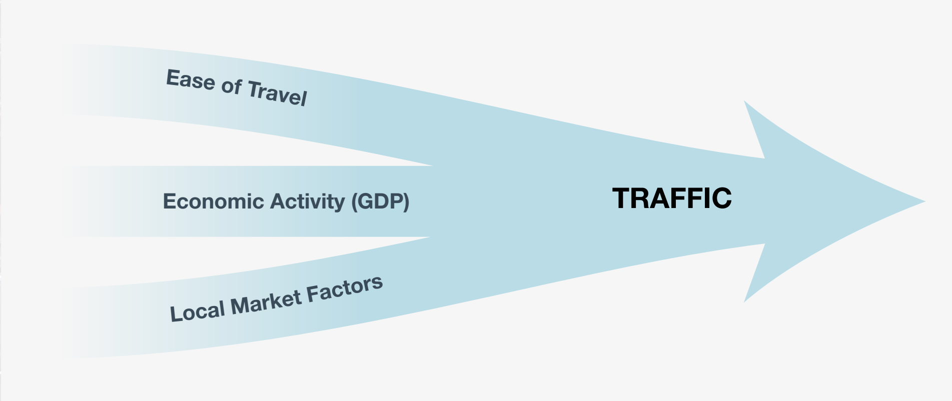
However, there is a risk that economic activity—the most readily understood factor in traffic flow—can be overstated as a driving force when there is a traffic downturn. An important variable to be considered is ease of travel.

Ease of travel is a factor that can experience improvements in many ways. Some of the more common examples include:

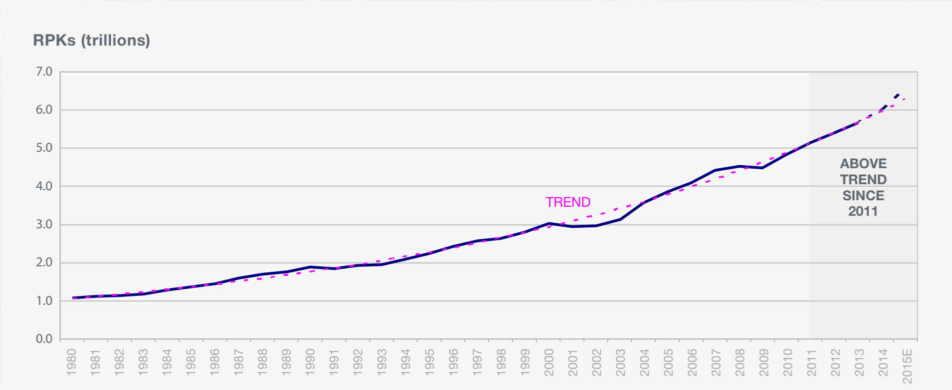
- More open air-services agreements between countries (e.g., the 2015 revised US-Mexico agreement).
- Liberalized domestic-market regulation.
- Emerging technology (e.g., new airplanes enabling new routes).
- Business-model innovation (e.g., low-cost airlines driving down fares).
- Airline-network improvements (e.g., new nonstop city pairs or greater frequency).

Local markets as a factor in forecasting air-travel flow is not directly related to either macroeconomic trends or ease of travel, but its impact on air-travel growth can be considerable. One notable example is when from 2009 to 2015 the US domestic market experienced essentially no growth in airline capacity. Given that load factors were already high, little headroom was left for traffic growth. As a result, traffic growth during this period was anemic, although the economy as a whole grew by 13 percent. Consolidation of the US airline industry during this time contributed

What drives travel air growth?



Resilient, growing market expected to continue



RPKs = Revenue Passenger Kilometers

Source: : ICAO scheduled traffic

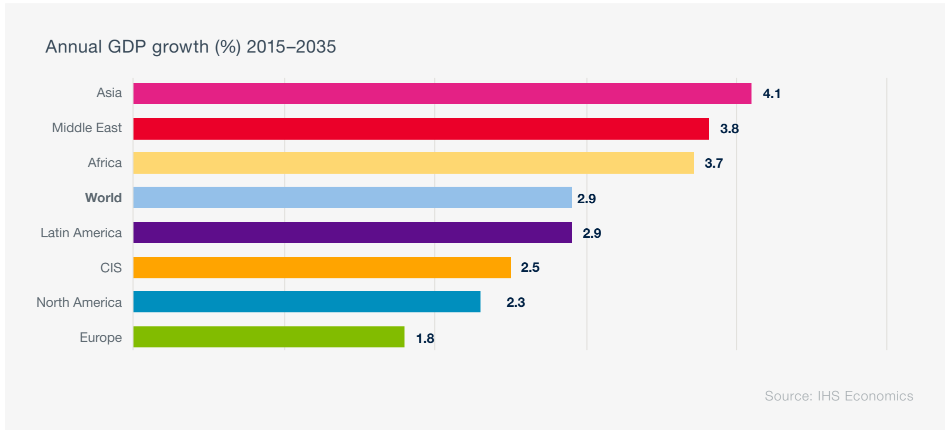
to this disconnect, as did the reluctance of US airlines to increase capacity in a time of high fuel prices. These factors were not replicated in a similar combination anywhere else in the world.

SHORT-TERM EFFECTS ON AIR TRAVEL

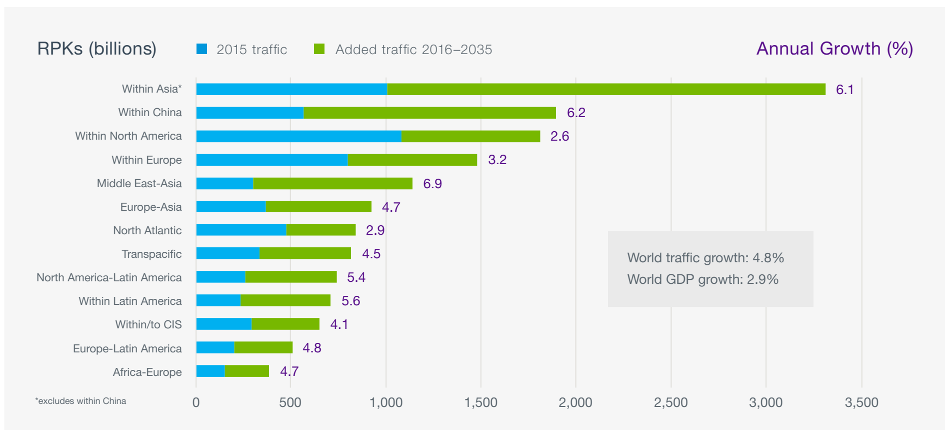
Although the air-transport industry is subject to occasional market shocks, the industry's demand is resilient; services are often seen as essential, and spending on discretionary trips for vacations or family events is frequently high priority. Over the past 30 years, the aviation industry has experienced recessions, oil-price shocks, near pandemics, wars, and security threats, yet traffic has continued to grow on average at 5 percent annually.

Changes in the structure of an economy can also result in short-term effects. For example, although the slow-down in China's GDP growth attracted much notice in the media, air travel continued to perform well. The reason: Chinese consumer sectors, which drive travel behavior, remained strong, while heavy industrial production and fixed investments weighed on top-line growth, feeding the headlines.

Emerging markets are driving the economic growth



World traffic varies by market



DEMAND FOR AIR TRAVEL IS EVOLVING

Demand dynamics shift according to different stages of a country's economic development. Emerging markets throughout the world have shown that air travel is one of the first discretionary expenditures to be added as consumers join the global middle class. As emerging market demand begins to develop, it may take the form of nonscheduled services to leisure destinations. Later, the same demand may migrate to scheduled services of low-cost carriers or to network airlines.

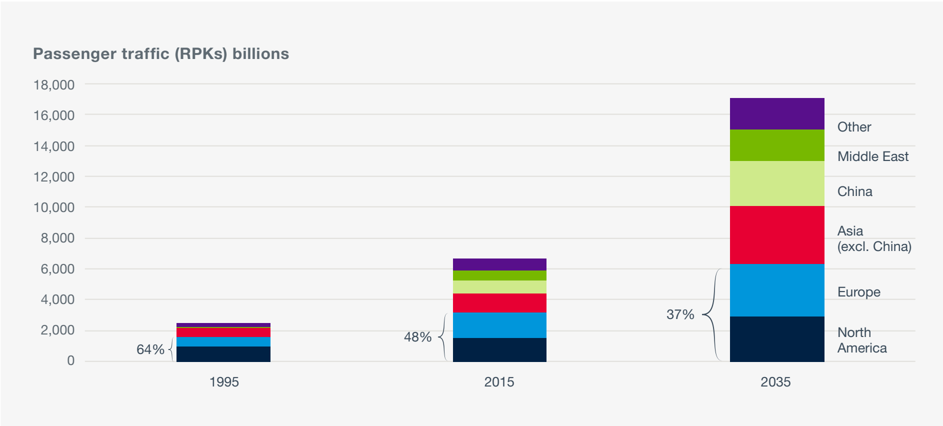
In developed markets, demand for essential travel has been met, so growth comes from discretionary travel. GDP per capita matters less in these market contexts. Factors such as the availability of vacation days earned, the funds needed to travel, consumer confidence, service pricing, and service quality (for example, the availability of nonstop flights) tend to have a greater impact.

Within a given region, propensity to travel as measured in trips or in revenue passenger kilometers (RPK) generally increases with per-capita income. This increase varies considerably. Generally, markets that are more open are more responsive to changes in per-capita income because airlines are freer to add routes, frequencies, and seats to capture demand. In a more regulated environment, demand may increase with GDP per capita, but lower service quality and higher pricing may restrain travel growth. Geography may also influence travel within a region, with islands or poorly connected land masses necessitating more air travel.

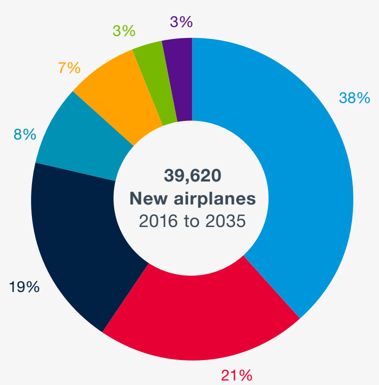
KEY INDICATORS

As discussed in the Methodology section, GDP is one of the key indicators within the aviation-market sector. IHS Economics is estimating that the world GDP will grow approximately 2.9 percent annually over the next 20 years. Based on the expected growth in GDP, as well as regional variations,

Air travel becoming more diverse geographically

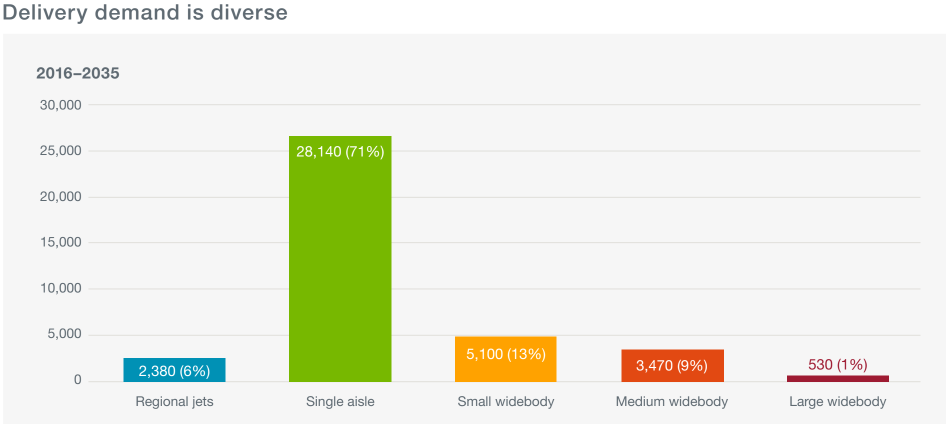


Delivery demand is diverse



Region	New airplanes
Asia	15,130
North America	8,330
Europe	7,570
Middle East	3,310
Latin America	2,960
Africa	1,150
CIS	1,170
Total	39,620

Delivery demand is diverse



airline passenger traffic is expected to grow at an annual rate of 4.8 percent and air cargo traffic at 4.2 percent.

As the aviation industry grows we continue to see diversification among world airlines. Twenty years ago, travelers were most likely flying on an airline based in North America or Europe. Today about 48 percent of travelers are flying on airlines based in North America and Europe. It is anticipated that 20 years from now this number will shrink to 37 percent. We see that as regions around the world expand their aviation industry, their share of the market continues to grow and increases the strength in traffic flows.

Over the next 20 years, it is predicted that China's domestic traffic will overtake North America as the world's largest air-traffic markets. The geographic location of the Middle East allows airlines in the region to take advantage of connecting almost any two points in the world with one connection, and this will help increase traffic in markets touching the Middle East. Growth within Central America and the Caribbean markets continues to be stimulated by ongoing liberalization.

FLEET DEVELOPMENT

In 2015, there were approximately 22,510 jet airplanes in service, a number that is expected to double over the next 20 years to an in-service fleet of 45,240 airplanes. To achieve that, 39,620 new airplanes will be needed, and 28,140 of them, or 71 percent of the total, will be single-aisle airplanes. Additionally, 9,100 new widebody airplanes will be required. Regionally, the need for new airplanes is well balanced: Asia will require approximately 40 percent; Europe and North America combined will need approximately 40 percent; and together, the Middle East, Latin America, Africa, and CIS will need the remaining 20 percent.

Many factors can drive the demand for replacement. Age is the primary one, but others include relative airplane economics, maintenance requirements, and the overall market environment. In recent years, high fuel costs have played a larger role in influencing decisions to remove airplanes from service, especially in the single-aisle category. On the other hand, the lack of availability of widebody airplanes has challenged airlines' ability to remove certain types from service as rapidly as desired.

In the next 10 years, the number of single-aisle and widebody airplanes entering the replacement zone will double. The number of single-aisle airplanes reaching 25 years of age has traditionally averaged 250 to 275 annually, but that figure will double to more than 500 by the beginning of the next decade. Meanwhile, the annual number of widebody airplanes reaching 25 years of age currently averages 100, but will increase to well over 200 annually by the beginning of the next decade. These numbers are in addition to the more than 1,400 single-aisle, widebody, and freighter airplanes still in service after more than 25 years.

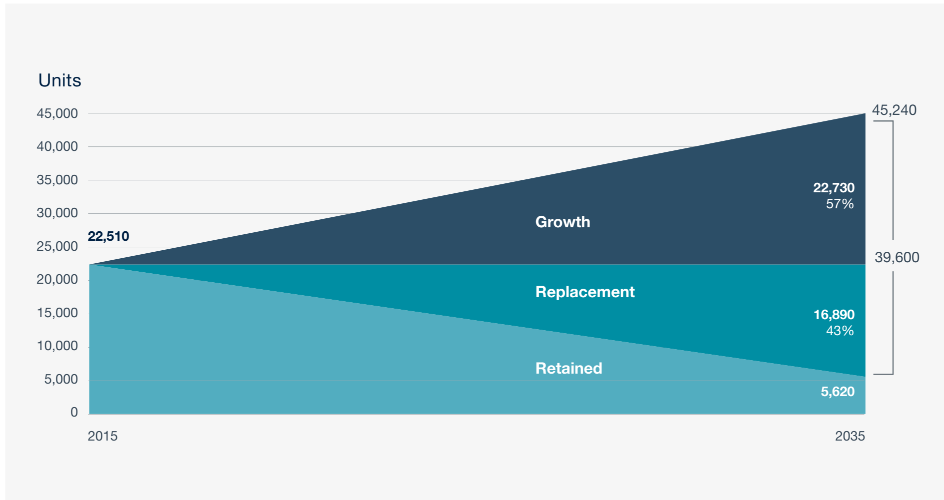
To continue growing globally at the expected annual rate of nearly 5 percent, the airline industry needs an approximate net annual increase in fleet size of 4 percent, and an approximate replacement rate of 3 percent. Since fleet replacement is largely less optional than fleet growth, it provides a solid, stable base for long-term demand for new airplanes. The two largest fleet domiciles, Europe and North America, are expected to need well over 61 percent of their new deliveries to replace older, less-efficient airplanes, as are the mature Northeast Asia and Oceania regions, thereby balancing the growth across emerging and developing markets in Asia, Latin America, and Africa.

Our long-term view of market demand is that airplane replacement will form 43 percent of demand during the next 20 years—a figure that has increased nearly every year as more fleets in emerging markets launch replacement cycles in the 20-year time frame.

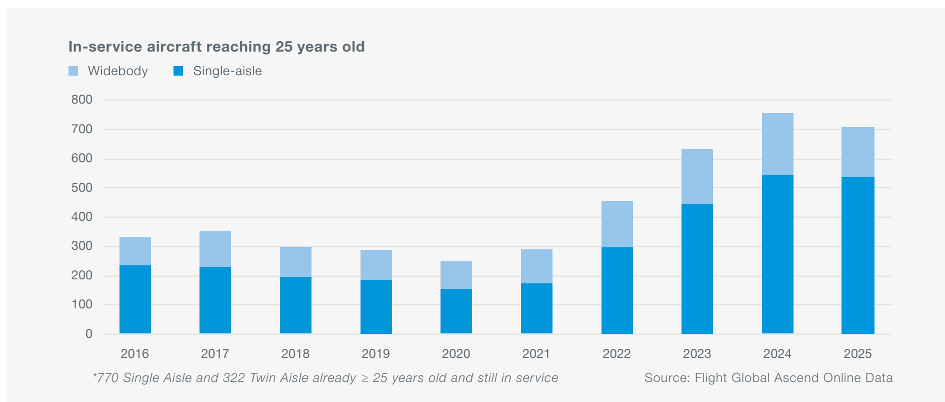
NETWORK CARRIERS DRIVE THE DEMAND IN SINGLE-AISLE GROWTH

Several factors continue to drive the global demand for new single-aisle airplanes, including large replacement needs in

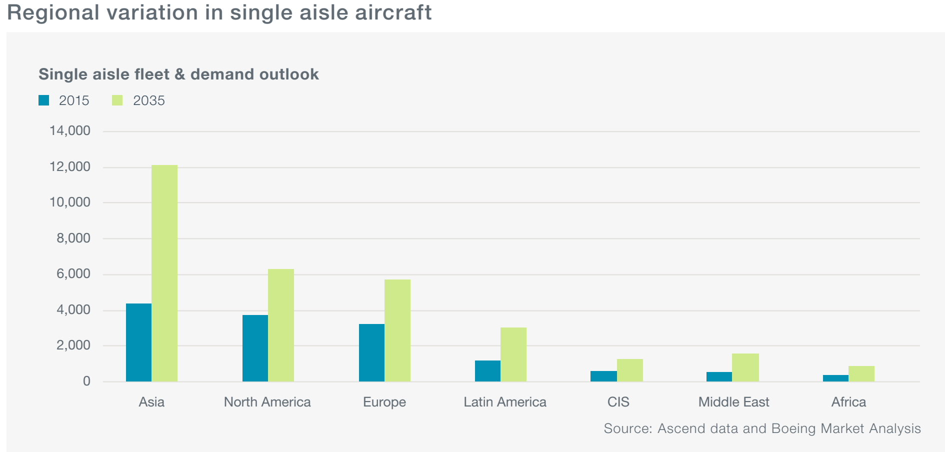
Older, less efficient airplanes replaced with more efficient, newer generation airplanes



Significant growth in replacement requirement



Regional variation in single aisle aircraft



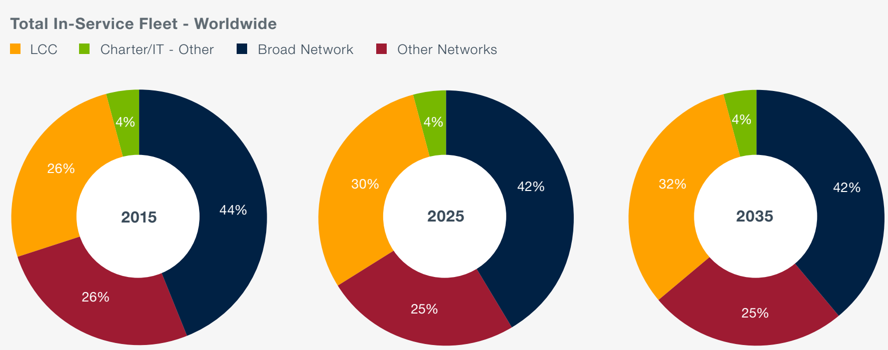
the advanced economies, steady passenger-traffic growth in the Asia-Pacific region, and the ongoing success and expansion of the low-cost business model around the globe. A dominant 60 percent share of new-passenger airplane demand in the single-aisle category is driven by the network carriers, and represents 17,000 airplanes. Low-cost carriers and charter or inclusive-tour operators make up the balance for new single-aisle airplane demand, or 11,000 airplanes.

The rationale for new single-aisle airplanes varies by region. The long-term need for replacement of older-technology airplanes continues to outpace growth demand in the advanced economies of Europe, Northeast Asia, North America, and Oceania. New-airplane demand in Africa, China, India, Latin America, and the Middle East is primarily for growth needs to meet the anticipated increase of passenger traffic.

Asia-Pacific, Europe, and North America are the three largest market regions for new single-aisle airplanes, and they represent 80 percent of all single-aisle demand. Listed below are trends highlighting the increased demand in each of these regions:

- Asia-Pacific passenger traffic is forecast to grow at an above-average rate of 6.0 percent per year, and the majority of all anticipated single-aisle orders, which is expected to be 75 percent of overall orders, will serve the growth ambitions of the region's airlines, for both domestic and international service. At least 70 percent of all new single-aisle orders is forecasted to be airplanes in the medium-sized category.
- Contrary to other regions, all airline business segments in Europe are expected to replace a majority of their single-aisle airplanes over the next twenty years. At an aggregate level, single-aisle airplane demand in Europe is primarily for replacement needs, representing 45 percent of all demand in the region. Medium-sized airplanes are forecast to be the airplane of choice for many of the region's operators.
- Over the next 20 years, only the network carriers in North America will require a greater number of single-aisle airplanes for their fleet replacement needs, or 1,940 airplanes. The North American network carriers' appetite for single-aisle airplanes is based primarily on the replacement of older, less-fuel-efficient jets with new-technology, fuel-efficient, single-aisle airplanes, including from the Boeing 737 MAX family. The next generation of these fuel-efficient Boeing 737 jets is scheduled for delivery in 2017, launching with Southwest Airlines. We estimate the majority of all new deliveries in this region will be in the medium-sized airplane category.

Business model variation in single aisle aircraft



Source: Ascend data and Boeing Market Analysis

Opening new markets

More than 100 new nonstop markets now connected with the 787

Announced   In Operation

Source: Ascend data and Boeing Market Analysis

CAPABILITY, EFFICIENCY, AND FLEXABILITY STIMULATE GROWTH IN THE WIDEBODY FLEET

Airlines make widebody-order decisions based on the airplanes' versatility, asking questions such as does the airplane have the efficiency to open new routes, does it have the ability to go longer distances, and will it provide the right amount of seats for the market. As airlines continue to focus on versatility, we have seen a move from larger widebody airplane types to smaller widebodies. In 1995, the large-size widebody airplane accounted for 36 percent of the in-service fleet; today that number has shrunk to 11 percent, and by the time we get to 2035, it will be 5 percent of the market share. The Boeing smaller-widebody product family—the 787, 777, and 747-8i—goes above and beyond answering airlines' requirements for this category. Over the next 20 years airlines will need 8,170 new widebody airplanes for passenger service.

The characteristics of a market and its airlines also influence the size and types of airplanes needed:

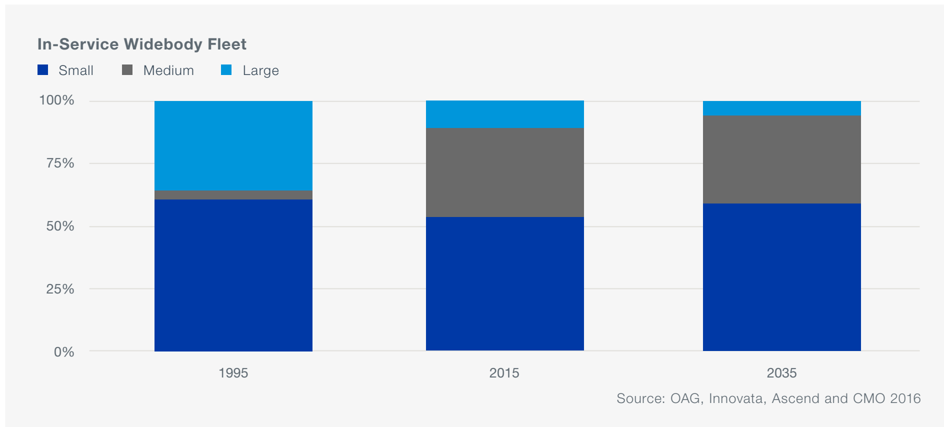
- Asia, an emerging player in the long-haul international market as well as a burgeoning regional aviation market, will rely heavily on small and medium widebody airplanes. These size categories consist not only of smaller airplanes such as the 787-8 and 787-9 that help take risk out of new routes, but they also include the 777 and 777X, which provide the size and range required for serving long routes such as North American destinations.
- Europe is ranked No. 2 for new deliveries of small widebody airplanes, a size which allows airlines to connect secondary markets to larger hubs as they explore ways to remain competitive.
- The Middle East, because of the number of people transiting through the region, will take delivery of the greatest number of large widebody airplanes and the second greatest number of medium widebody airplanes. The location of the Middle East makes it a hub for passengers to fly to almost any place in the world with only one stop.

AIR CARGO GROWTH FORECAST TO RESUME

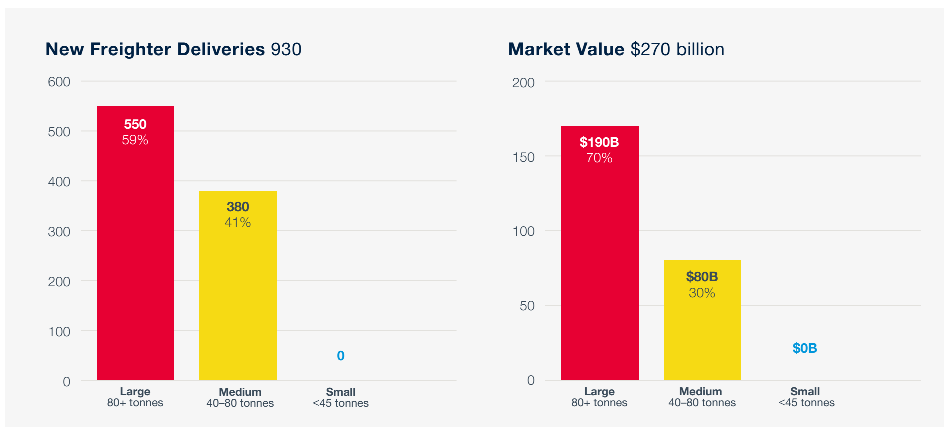
After a period of stagnation that followed the global economic slowdown, air-cargo traffic started to recover in late 2013. This recovery continued through 2014 and, with the aid of the US West Coast port labor dispute that extended into the first quarter of 2015, world air-cargo volume grew about 5 percent by year-end.

In the second quarter of 2015, global trade and industrial

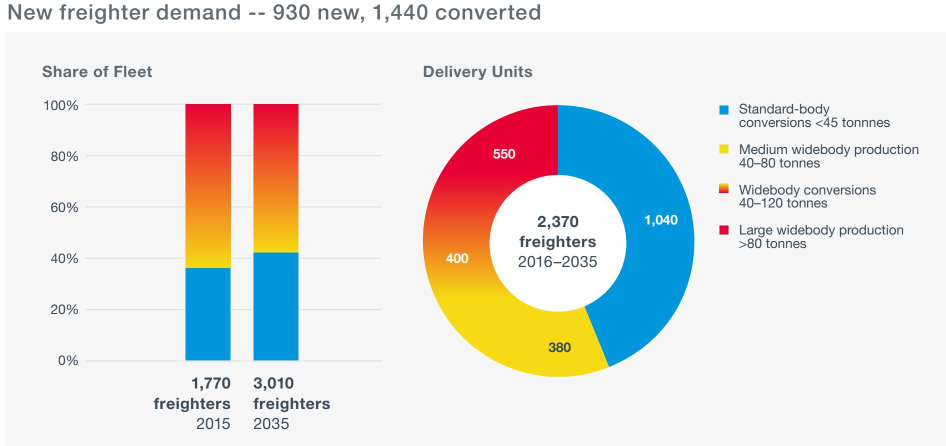
Airlines moving from large airplanes to small and medium widebodies



Future freighter deliveries will be led by demand for large widebodies



New freighter demand -- 930 new, 1,440 converted



production slumped. As a result, air-cargo growth slowed with world air-cargo volume growing about 2 percent for the year. This is a temporary situation; the world economy and industrial production, which are primary leading indicators of air cargo traffic, are forecast to recover and return to long-term trend growth rates in 2017. In turn, air-cargo traffic will grow, and sustained growth should lead to improvements in capacity balance and yields.

There is continued demand for the speed and reliability benefits that air freight offers. Industries that require transport of time-sensitive and high-value commodities such as perishables, consumer electronics, high-fashion apparel, pharmaceuticals, industrial machinery, and automobile components recognize the value of air freight, and this value will continue to play a significant role in their shipping decisions. The restructuring of logistics chains to serve the rapidly growing e-commerce industry also requires the unique capabilities that air cargo provides and offers a new area of growth.

Passenger airplanes and dedicated freighters both carry air cargo. Lower-hold cargo capacity on passenger flights has been expanding as airlines deploy new jetliners with excellent cargo capability, such as the 777-300ER. However, dedicated freight services offer shippers a combination of reliability, predictability, and control over timing and routing that is often superior to that of passenger operators. As a result, freighters are expected to continue carrying more than half of global air cargo to satisfy the demanding requirements of that market.

As global GDP and world-trade growth accelerate, air cargo traffic, as measured in revenue tonne-kilometers, is projected to grow an average 4.2 percent per year over the next 20 years. World air-cargo volume, in spite of exogenous shocks arising from economic and political events and natural disasters, grew an average of 5.2 percent per year over the last three decades. Replacement of aging airplanes, plus the industry's growth requirements, will create a demand for 2,370 freighter deliveries over the next 20 years. Of these, 1,440 will be passenger-airplane conversions. The remaining 930 airplanes, valued at $270 billion, will be new. The overall freighter fleet will increase by more than half—from 1,770 airplanes in 2015 to 3,010 by 2035.

WORLD REGIONS

WORLD

GLOBALIZED DEMAND

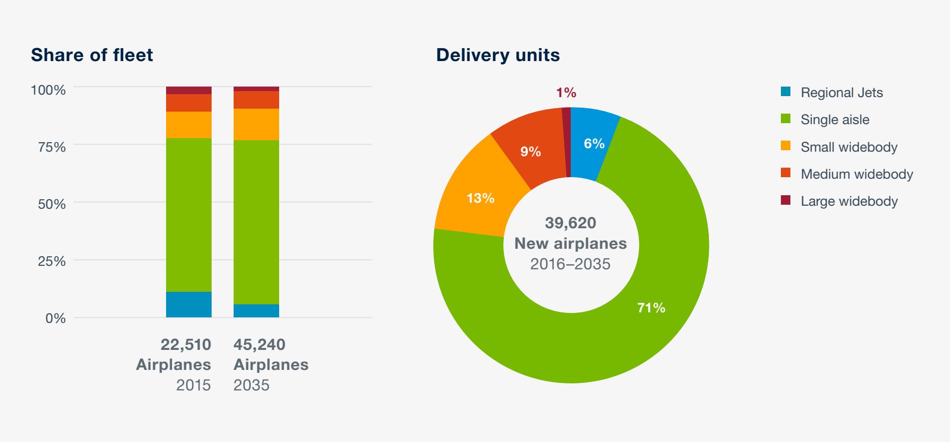
As emerging markets continue to grow and new business models expand, the customer base for airplanes is becoming increasingly diverse. In 1995, airlines in Europe or North America carried more than 64 percent of all traffic. By 2035, that share will shrink to 37 percent, with Asia Pacific and Middle East airlines becoming more prominent in global aviation.

The low-cost business model is becoming a viable option in emerging markets, offering passengers access to a wider range of destinations and the opportunity to choose the speed and convenience of flying rather than traditional modes of transportation. In addition, new, efficient widebody airplanes are enabling smaller operators in developing economies to compete on longer routes traditionally dominated by foreign carriers. The range and economics of these airplanes are also enabling the emergence of the long-haul low-cost business model, which is dramatically expanding the number of long-haul nonstop city pairs offered. Rapidly evolving aviation product offerings and growth in emerging markets are broadening the geographical balance of airplane demand, spurring a worldwide requirement for over 39,620 new jet airplanes, valued at $5.9 trillion.

REGIONAL FOCUS

Each region will respond to its unique situation and conditions with specialized airplane requirements. Middle East airlines continue to favor widebody airplanes and premium passenger services to leverage the area's geographic advantages and prominence in business travel. Airlines in Europe and North America are responding to growing competition from low-cost carriers by replacing older, fuel-inefficient airplanes with new and more economical single-aisle models. The large installed airplane base in these regions generates a need for a considerable number of replacement airplanes, even though growth is slower than in other parts of the world. In Asia, rising demand across the board will require a mix of single-aisle and widebody airplanes.
All regions will face similar challenges of fuel-price volatility, emission-control regimes, and ever-increasing airport and airspace congestion as the growing world fleet tries to keep pace with burgeoning international and local demand for air travel.

World market value: $5.9 trillion



World key indicators and new airplanes

Growth Measures (%)	
Economy (GDP)	2.9
Traffic (RPK)	4.8
Airplane fleet	3.6

	New airplanes	Share by size (%)
Large widebody	530	1
Medium widebody	3,470	9
Small widebody	5,100	13
Single aisle	28,140	71
Regional jet	2,380	6
Total	**39,620**	

Market size	
Deliveries	39,620
Market value	$5,930B
Average value	$150M

	2015 fleet	2035 fleet
Large widebody	740	700
Medium widebody	1,640	3,690
Small widebody	2,660	6,060
Single aisle	14,870	32,280
Regional jet	2,600	2,510
Total	**22,510**	**45,240**

ASIA

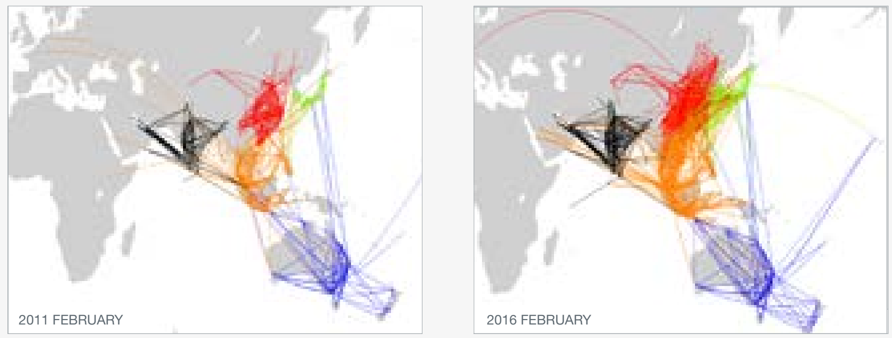
GROWING MARKET

The Asia region continues to demonstrate vigorous economic growth at a rate of 4.1 percent per year, outpacing the global average by 2.9 percent. Driven by China and India as the main engines of growth, the region's share of world GDP is projected to rise from 31 percent today to 39 percent by 2035. The significant growth rate in this emerging market is expected to continue. As a result, airlines, airport capacity, and passenger traffic are expected to experience a robust growth rate in the next 20 years. Demand in commercial aviation is also coming from the continuing expansion of the middle class in Asia, where a greater sector of the population is reaching income levels that make flying more affordable. Despite the presence of geopolitical conflict and currency fluctuation, Asia's airlines are estimated to have earned a net profit of $5.8 billion in 2015 and are projected to earn a net profit of $6.1 billion in 2016.

CHANGING INDUSTRY STRUCTURE

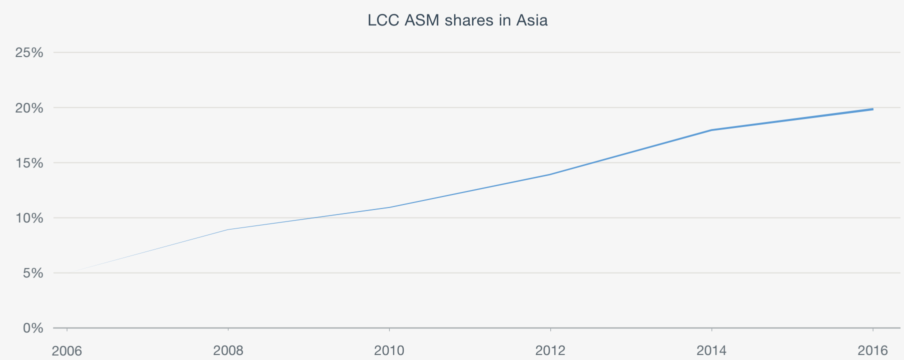
Liberalization is responsible for significant expansion in Asia's aviation industry. Changes, such as open skies, enable the air-travel market in the region to expand beyond national boundaries and support airlines in implementing new low-cost carrier (LCC) business models, which is a viable and growing option for this emerging market. In addition to airlines being able to operate to new locations, easing of visa

Asia Aviation Trends



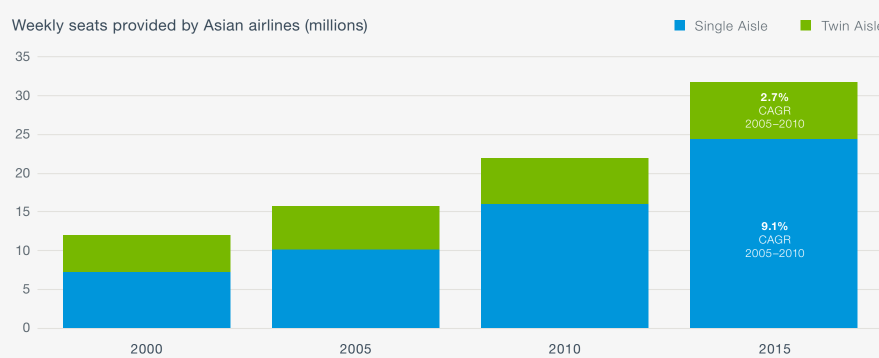
Source: Innovata

Low Cost Carriers gaining traction in region



Source: Innovata

Long-haul expansion is accelerating with 787s

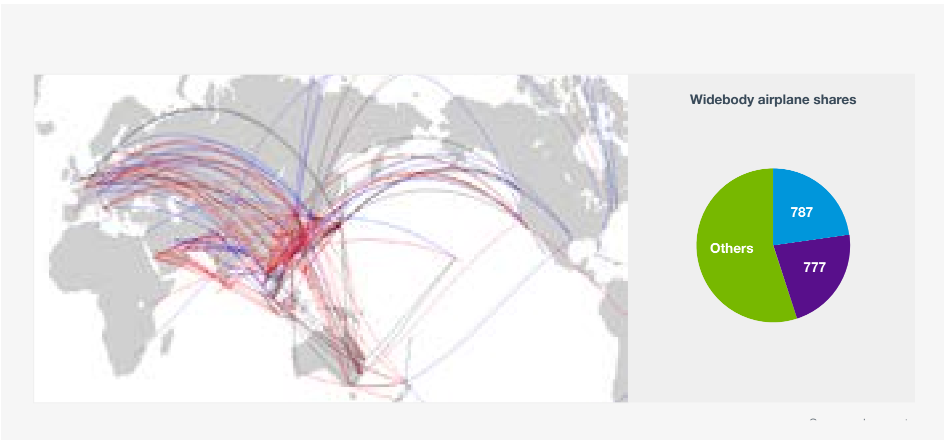


Sources: Historical OAG / 2015 Innovata

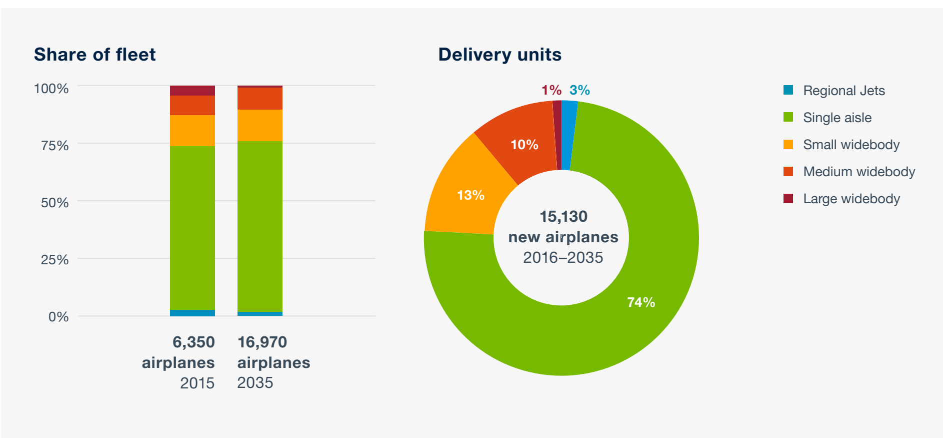
regulations is now allowing passengers to travel more broadly.

To expand outside their home markets, many airlines have created international joint-venture subsidiaries, avoiding restrictions on foreign ownership. Subsidiaries often embrace the LCC model, which was originally designed for short-haul leisure traffic flying single-aisle airplanes at the lowest possible fares. However, the trend is slowly shifting to also target corporate travel, where operating widebody airplanes with a premium cabin in medium-haul markets provides a viable alternative to network carriers for business travelers. LCC carriers support air-travel growth by making it more affordable and accessible, thereby meeting the emerging travel demands of the region's growing middle class.

New widebody markets started by Asian Airlines



Asia market value: $2.3 trillion



Asia key indicators and new airplanes

Growth Measures (%)	
Economy (GDP)	4.1
Traffic (RPK)	6.0
Airplane fleet	5.0

	New airplanes	Share by size (%)
Large widebody	130	1
Medium widebody	1,490	10
Small widebody	2,060	13
Single aisle	11,160	74
Regional jet	290	2
Total	**15,130**	

Market size	
Deliveries	15,130
Market value	$2,350B
Average value	$160M

	2015 fleet	2035 fleet
Large widebody	270	170
Medium widebody	540	1,590
Small widebody	860	2,340
Single aisle	4,540	12,560
Regional jet	140	310
Total	**6,350**	**16,970**

FUTURE DEMAND

Asia is gaining prominence in global aviation and is expected to become the world's leading travel market. Total air traffic for the region is forecast to grow at an average of 6.0 percent, and by 2035, passenger traffic throughout Asia will constitute 48.7 percent of global passenger traffic. Driven by the region's strong economic development, highly effective industry structure, and increasing accessibility of air transport services, more than 100 million new passengers are projected to enter the market annually.

To accommodate this significantly growing demand and modernize their fleets, over the next 20 years Asia will need 15,130 airplanes, valued at $2.35 trillion. The number of airplanes in the Asia fleet will nearly triple, from 6,350 airplanes in 2015 to 16,970 airplanes in 2035. Fast-growing LCCs within the region will help drive a need for 11,160 single aisle airplanes. Airplanes like the 787 and 777 have enabled airlines in the region to open new markets. These market dynamics will lead to regional need for 3,680 new widebody airplanes by 2035. Air cargo also plays a crucial role in Asia. The region transports vast amounts of goods over difficult terrain and vast stretches of ocean. Many of the world's largest and most efficient cargo operators are located in the region. Carriers in the region are expected to need 320 new-production freighters and 580 converted freighters by 2035.

NORTH AMERICA

BIENVENIDO CUBA! NEW AIR-SERVICE AGREEMENTS TO BOOST TRAVEL TO CENTRAL AMERICA (INCLUDING THE CARIBBEAN)

Despite economic and political uncertainty in various regions of the globe, the North American airline industry is on a trajectory of continued growth in passenger traffic and capacity. Domestic service in the United States recorded the highest growth rates from all airline business segments. The Big 3 network carriers filled on average 86 percent of their domestic (mainline) seats as demand outpaced supply, with a year-over-year 3.5 percent increase of traffic and an increase of only 3 percent year-over-year in capacity.

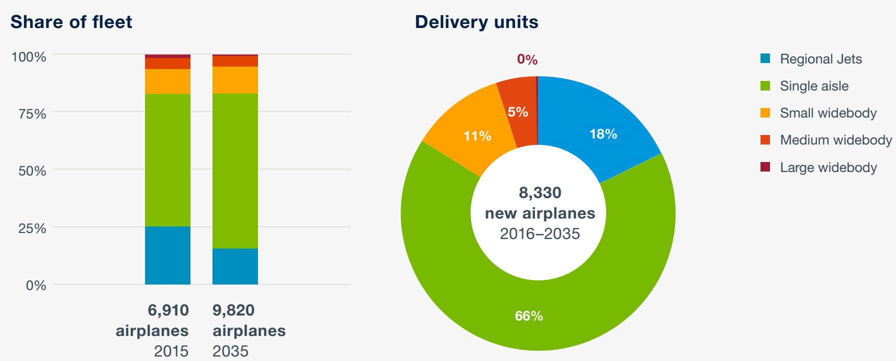
As passenger traffic to Europe and South America face short-term headwinds, other regions are experiencing growth in travel to North America, notably Central America and the Caribbean. For the first time in more than a half century, there is a new air-services agreement between the United States and Cuba, signed between the respective governments in 2015. Several US airlines have applied for the initial flight frequencies to Cuba: 20 daily round-trip flights to the capital, Havana, and ten round-trips to nine other Cuban international airports. The United States Department of Transportation will award the initial frequencies to Cuba in the summer of 2016. Currently, the only scheduled air service from North America to Cuba is from Canadian gateways.

In addition to the Cuba agreement, the United States and Mexico also signed an expanded air-services agreement in December 2015, replacing the previous bilateral agreement that dated back to 1960. The current agreement restricts air service to a maximum of 30 transborder routes, with two or three airlines from each country permitted to serve. Under the new liberalized bilateral agreement, all air-service restrictions between the two countries will be lifted, a move that is

U.S. airlines proposed jet flights to Cuba

Source: Airline press releases (2016)

North America market value: $1.0 trillion



North America key indicators and new airplanes

Growth Measures (%)	
Economy (GDP)	2.3
Traffic (RPK)	3.1
Airplane fleet	1.8

	New airplanes	Share by size (%)
Large widebody	20	--
Medium widebody	420	5
Small widebody	930	11
Single aisle	5,440	66
Regional jet	1,520	18
Total	**8,330**	

Market size	
Deliveries	8,330
Market value	$1,030B
Average value	$120M

	2015 fleet	2035 fleet
Large widebody	100	60
Medium widebody	320	460
Small widebody	750	1,150
Single aisle	4,010	6,630
Regional jet	1,730	1,520
Total	**6,910**	**9,820**

viewed as the next step toward a future full open skies agreement.

Due to these new, expanded air-service agreements with Cuba and Mexico, the traffic forecast between North America and Central America increased 1.1 percentage points to 5.3 percent per annum predicted over the next 20 years. As previously mentioned, with six years of sustained growth within North America the traffic forecast has also been increased to 2.6 percent per year, up slightly by 0.2 percentage points. The expectation for a liberalized air-services agreement between the United States and China is also anticipated in the near future, which will further boost travel and trade between the two countries.

Over the next 20 years, we are forecasting a need for 8,330 new airplanes. Single-aisle airplanes are the largest forecast category, with an estimated 5,440 units representing 65 percent of demand. Due to a large installed fleet that is nearing economic retirement and the offering of new fuel-efficient airplanes, 65% of all new airplanes will be for replacement needs, slightly more than 5,400 airplanes.

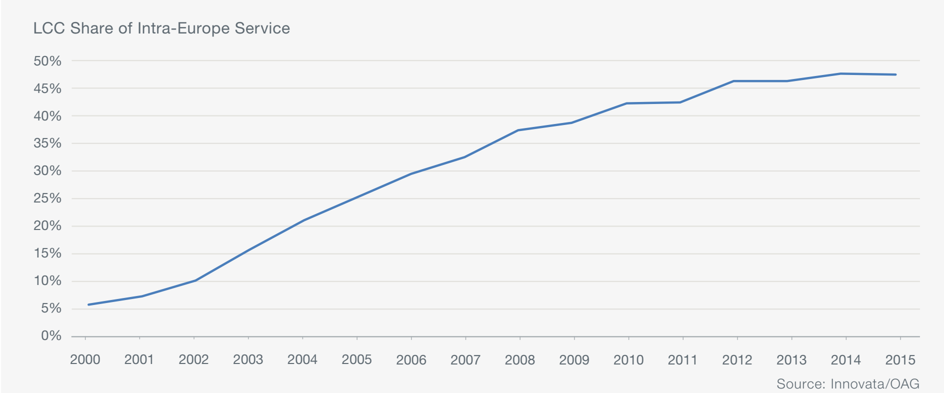
EUROPE

STRONG GROWTH DESPITE UNCERTAINTY

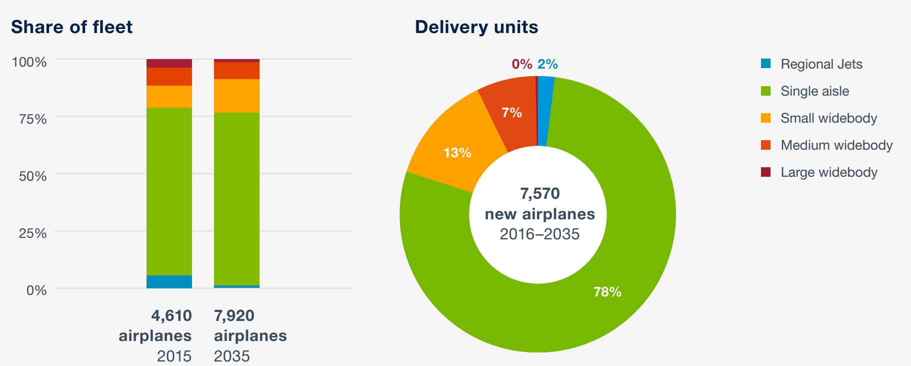
Europe's aviation market remained strong in 2015 despite significant economic uncertainties. Europe's GDP grew by 1.9 percent in 2015 and is forecast to grow by 1.8 percent annually through 2035. The Association of European Airlines reports that member airlines carried approximately 307 million passengers, 4.3 percent more passenger traffic in 2015 than in 2014. Members of the European Low Fares Airline Association reported an increase in passengers of about 12.3 percent over 2014. European airlines acquired more than 240 new airplanes in 2015, of which 67 percent were single aisle.

The European aviation market is expected to grow during the next 20 years, with airlines forecast to acquire more than 7,500 new airplanes valued at over $1.1 trillion. Single-aisle airplanes will comprise

LCC share within Europe approaching 50%



Europe market value: $1.1 trillion



Europe key indicators and new airplanes

Growth Measures (%)	
Economy (GDP)	1.8
Traffic (RPK)	3.7
Airplane fleet	2.7

	New airplanes	Share by size (%)
Large widebody	30	--
Medium widebody	570	7
Small widebody	960	13
Single aisle	5,880	78
Regional jet	130	2
Total	**7,570**	

Market size	
Deliveries	7,570
Market value	$1,120B
Average value	$150M

	2015 fleet	2035 fleet
Large widebody	170	100
Medium widebody	360	610
Small widebody	440	1,140
Single aisle	3,370	5,920
Regional jet	270	150
Total	**4,610**	**7,920**

the majority of deliveries, representing a 78 percent share of total deliveries. Although European aviation growth is slower than aviation growth in emerging economies, the region's large installed base of more than 4.600 airplanes supports substantial demand for replacement airplanes. Replacement demand will account for 56 percent of Europe's total new airplane market.

CONTINUED STRATEGIC EVOLUTION

Airline operations in Europe continue to evolve with the launch of new ventures, routes, and business models. Norwegian Air Shuttle continues to expand their long-haul low-cost carrier (LCC) operations, while Lufthansa has launched a long-haul LCC subsidiary to compete for leisure passengers.

The introduction of the 787 has allowed operators to economically serve long-haul, nonstop markets that have not been served before. European operators have been on the forefront of this trend, with 96 long-haul routes introduced since 2012—the most of any region.

LCCs continue to grow short-haul markets, providing over 47 percent of intra-Europe capacity in 2015. Network airlines are shifting short-haul flying to their LCC subsidiaries, and are focused on flowing long-haul passengers through their hubs with connecting itineraries. Smaller flag carriers and charter airlines must carve out a profitable niche to be able to compete in an environment where LCCs dominate short-haul, point-to-point service and large network carriers and their alliance partners exploit the cost advantages of mega-hubs for long-haul traffic.

Large Middle East airlines have captured significant long-haul share from Europe's network carriers by providing one-stop service from Europe to destinations such as India, Australia, and Southeast Asia, where the geographic advantage of Middle East carriers is greatest. In response, Europe's network carriers have shifted long-haul capacity to more profitable markets—notably the North Atlantic, where their capacity has grown over 20 percent since 2010.

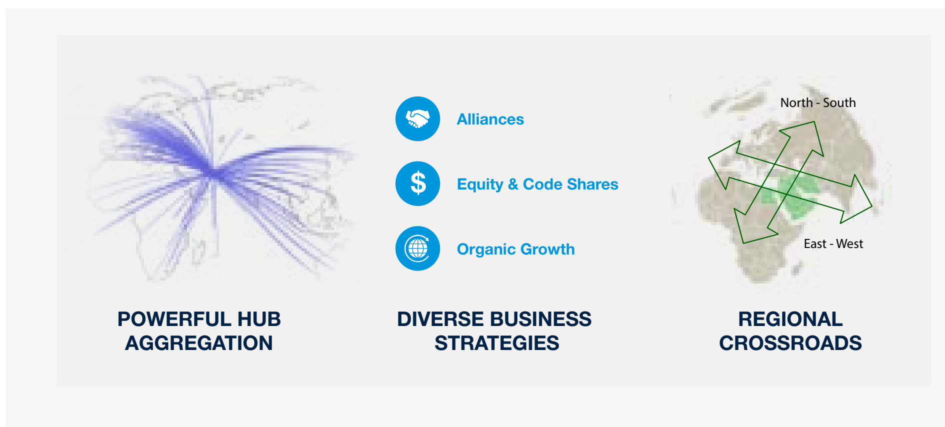
MIDDLE EAST

SUPPORT FOR AVIATION GROWTH

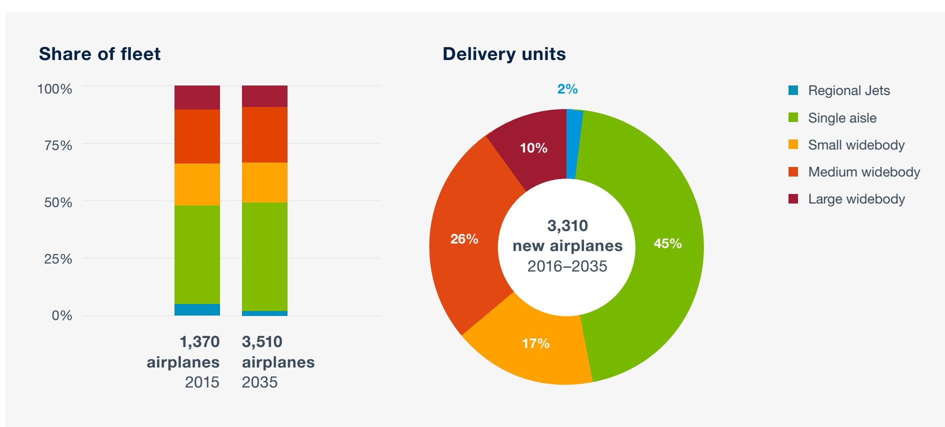
Located at the crossroads of Asia, Africa, and Europe, airlines in the Middle East are well positioned to compete for traffic connecting these continents. About 80 percent of the world's population lives within an eight-hour flight of the Persian Gulf, allowing carriers in the Middle East to aggregate traffic at their hubs and offer one-stop service between many city pairs that would not otherwise enjoy such direct itineraries.

Partnerships of various kinds also feed Middle East hubs. However, no single strategic approach has yet emerged as dominant from the organic growth in selective code sharing, equity stakes in out-of-region carriers, or membership in traditional alliances. Each of these strategies creates opportunities to

Middle East: Aviation growth factors



Middle East market value: $770 billion



Middle East key indicators and new airplanes

Growth Measures (%)			New airplanes	Share by size (%)
Economy (GDP)	3.8	Large widebody	320	10
Traffic (RPK)	5.9	Medium widebody	850	26
Airplane fleet	4.8	Small widebody	560	17
		Single aisle	1,510	45
		Regional jet	70	2
		Total	**3,310**	
Market size			**2015 fleet**	**2035 fleet**
Deliveries	3,310	Large widebody	140	320
Market value	$770B	Medium widebody	320	840
Average value	$230M	Small widebody	250	610
		Single aisle	590	1,660
		Regional jet	70	80
		Total	**1,370**	**3,510**

coordinate schedules across international boundaries, which further enhance the appeal of services connecting the Middle East.

The 2016 Iran nuclear deal represents an impressive opportunity for the region. Iran has a large population spread across a number of significant urban centers. The country was cut off from the world for many years by economic sanctions, but this new agreement regarding the nation's nuclear program opens up channels for the removal of those sanctions and the reintegration of Iran into the world economy. Foreign investment and trade will see strong growth in Iran, while the new openness should allow airlines both inside and outside of the country to add new services. Airlines within the country now also have the opportunity to renovate their fleets¬—an opportunity that they have been quick to act upon.

Lower oil prices challenged many Middle East economies in 2015 and 2016. Although not every country in the region has oil, many of its governments often use oil revenues in place of VATs, income taxes, or taxes on corporate profits to finance their operations. When oil prices fall below the expectations of these governments (which was typically $80 to $100 per barrel before the fourth quarter of 2014), deficits emerge, and they are prompted to cut expenditures.

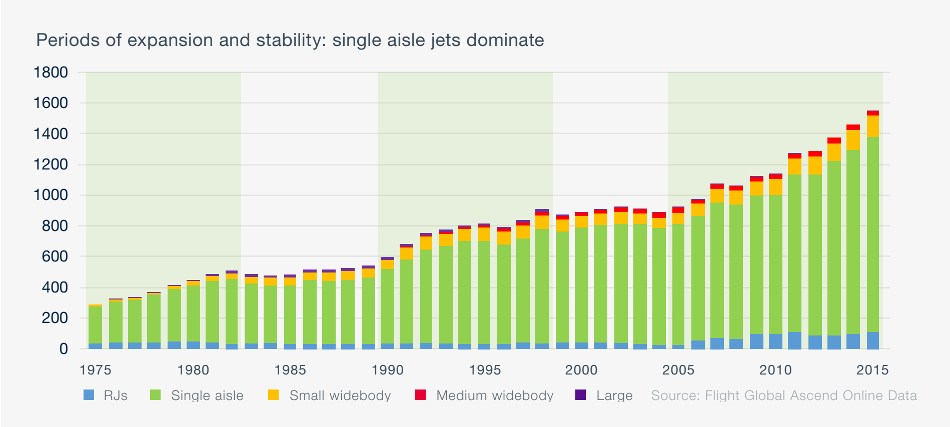
Further complicating the problem, lower oil prices also lead to reduced foreign investment and economic activity within the region's oil-exporting countries.

LATIN AMERICA

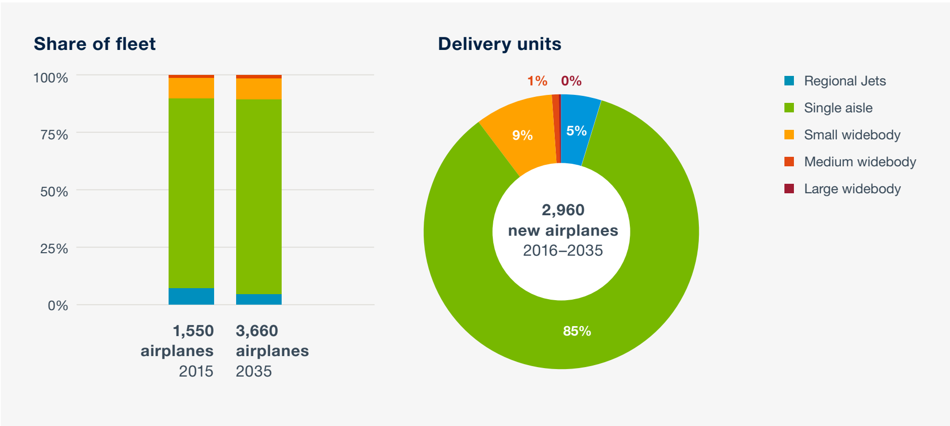
NEAR-TERM CHALLENGES; LONG-TERM PROSPECTS

Several countries in the Latin America region are working through near-term economic challenges. The Brazilian and Venezuelan economies are contracting, and Argentina is on the edge, although the new government is taking positive action for improvement. Conversely, the economies of many other nations, including Mexico, Panama, Peru, and Colombia, are performing well and are positioned for continued expansion. Chile is still growing, although affected by the commodities

Latin America fleet evolution



Latin America market value: $350 billion



Latin America key indicators and new airplanes

Growth Measures (%)			New airplanes	Share by size (%)
Economy (GDP)	2.9	Large widebody	--	--
Traffic (RPK)	5.8	Medium widebody	30	1
Airplane fleet	4.4	Small widebody	260	9
		Single aisle	2,530	85
		Regional jet	140	5
		Total	**2,960**	

Market size			2015 fleet	2035 fleet
Deliveries	2,960	Large widebody	--	--
Market value	$350B	Medium widebody	20	40
Average value	$120M	Small widebody	140	350
		Single aisle	1,280	3,110
		Regional jet	110	160
		Total	**1,550**	**3,660**

slump, and Cuba is gradually opening its borders. The Latin American region has a history of cyclical ups and downs, but the fundamental drivers for future expansion remain in place: the middle class is growing, income levels are expected to rise, and the commodities and resources that have enabled growth during previous periods still remain. Overall, while the near-term economic outlook is challenging, long-term prospects for the region as a whole are promising.

OUTLOOK FOR AVIATION

Air traffic increased during 2015, even in the midst of these challenges. Passengers carried, traffic (revenue passenger kilometers—RPKs), capacity (available seat kilometers—ASKs), and passenger-load factors all grew during 2015, according to the Latin American and Caribbean Air Transport Association, again demonstrating the resilience of air travel. Airlines are adjusting capacity and rationalizing their fleets as needed to deal with the current situations and to position themselves for growth.

Challenges provide incentive for change. Brazil is proposing to raise the maximum-permitted level of foreign ownership of Brazilian airlines to 49 percent, and airlines and airline-related entities are calling for reforms on taxes, policies, and regulations that constrain growth. Mexico and the United States reached a liberalized air-services agreement in late 2015 that is on track for approval, and ratification of the US-Brazil open-skies agreement appears to be imminent. These developments produce new opportunities for cooperation through partnerships and alliances.

Economic development is a key driver in the demand for air travel, and airlines and aviation infrastructure will evolve to meet this demand. Low-cost airlines and network carriers will continue to expand intra-regionally and internationally, providing more flights and better connectivity. As more cities are connected with better air service, business and leisure travel increase, which in turn further stimulate economic growth.

TRAFFIC AND FLEET FORECAST

Passenger traffic growth for Latin America and the Caribbean is forecast to average 5.8 percent per year for the next 20 years. The fastest growth is expected within intraregional flows, as economic conditions improve. Traffic within South America is forecast to average 6.0 percent per year through 2035.

The cyclical pattern of growth followed by stabilization in Latin America is apparent in the historical development of the fleet for the region. Most of the growth has taken place within the single-aisle fleet segment, which is consistent with the forecast for demand for new airplanes. During the most recent expansion period from 2004 through 2015, the Latin American fleet grew at an average rate of 5.2 percent per year.

The region’s commercial fleet is projected to double between now and 2035, from nearly 1,550 airplanes today to more than 3,600. Latin America will need 2,960 new deliveries over the next 20 years to meet the combined demands of growth and replacement. The majority of these deliveries are expected to be in the single-class segment, reflecting the continued growth of low-cost carriers and further expansion of networks within Latin America and the Caribbean.

AFRICA

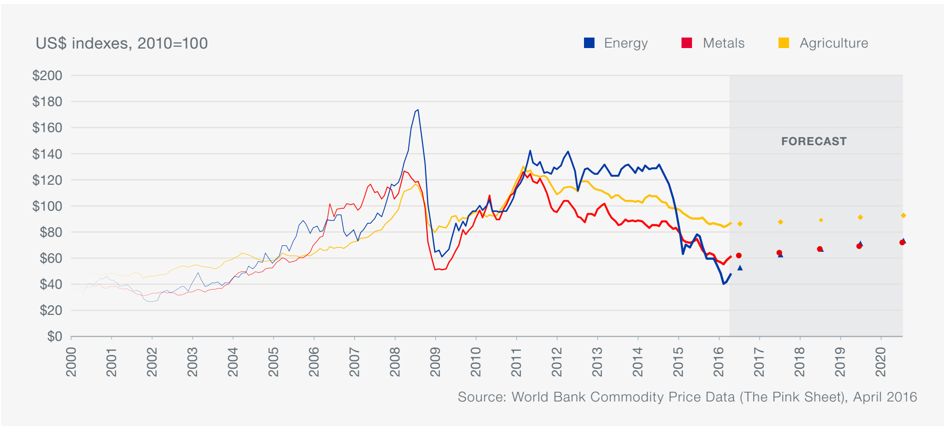
SHORT-TERM ECONOMIC HEADWINDS

A combination of external and domestic factors caused Africa’s economic activity to slow from 3.4 percent in 2014 to 3.0 percent in 2015. The region has benefitted from a much-improved business and macroeconomic environment, high commodity prices, and highly accommodative global financial conditions. However, 2015 saw a shift in external conditions with lower commodity prices, a slowdown in major trading partners, changes in foreign exchange rates and tightening borrowing conditions. Domestic factors, such as electricity shortages and political instability and conflict, contributed to unfavorable conditions in some middle-income countries. The recent downturn in commodity pricing has hurt the African economy though GDP decline is projected to slow in 2016, as prices stabilize and supply constraints ease. Pricing volatility can reduce long-term growth prospects but many policymakers have adopted better fiscal policies that have allowed them to minimize the effects of downturns in the economic environment. Despite the headwinds, the decline is projected to be short term, with a rebound commencing in 2017.

LESS DEPENDENCY ON COMMODITY PRICING

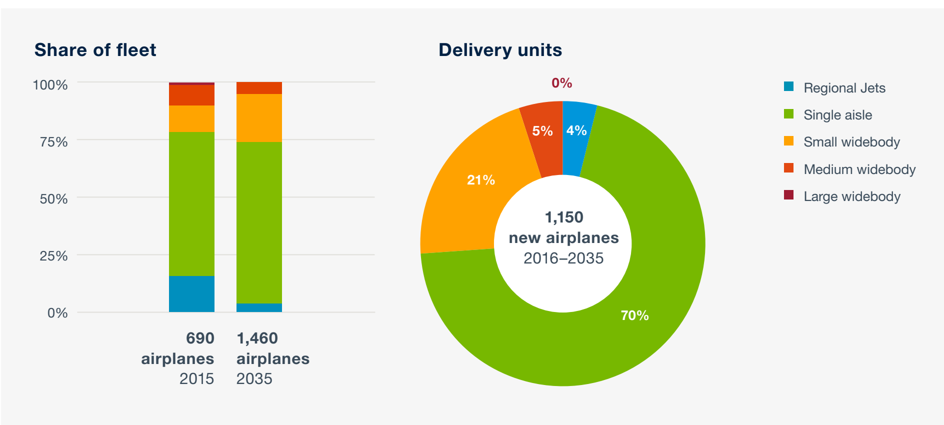
Africa is much better positioned to manage some difficult economic conditions because their dependency on commodity pricing has decreased. The region has an immensely improved business and macroeconomic environment, supporting higher investment through improved policies. According to the Doing Business report by World Bank Group, Sub-Saharan Africa made more regulatory improvements from 2013 to 2014 than any other region. Solid private-consumption growth with ongoing infrastructure investment is continuing in most of the region's low-income countries and many in the region are resisting a weakening trend and continue to post robust growth. While some countries are being negatively affected by the sharp decline in the prices of their main commodity exports, particularly the region's oil exporters, it has been a boon for others that are net importers seeing economic gain from more favorable pricing. Growth in services has expanded quickly, manufacturing output has grown, and tourism has rapidly accelerated as the number of foreign visitors doubled and receipts tripled between 2000 and 2012. Even in a period where commodity production slips, other parts of the economy have improved to reduce the impact. Of the 38 countries where data was available, 28 had more than 60 percent of their merchandise exports from commodities. Further reduction on this dependence will dampen the booms and busts of economic activity throughout the region. The World Bank projects that commodity prices will generally level out in 2016, with a recovery in 2017 projected from stronger demand, and potentially supply disruptions.

Africa: Commodity prices stabilized and are increasing



Source: World Bank Commodity Price Data (The Pink Sheet), April 2016

Africa market value: $170 billion



Africa key indicators and new airplanes

Growth Measures (%)	
Economy (GDP)	3.7
Traffic (RPK)	6.1
Airplane fleet	3.8

	New airplanes	Share by size (%)
Large widebody	--	--
Medium widebody	60	5
Small widebody	240	21
Single aisle	810	70
Regional jet	40	4
Total	**1,150**	

Market size	
Deliveries	1,150
Market value	$170B
Average value	$150M

	2015 fleet	2035 fleet
Large widebody	10	--
Medium widebody	60	80
Small widebody	80	300
Single aisle	430	1,020
Regional jet	110	60
Total	**690**	**1,460**

LONG-TERM GROWTH INDICATES INCREASED DEMAND FOR AIRPLANES

Air traffic to, from, and within Africa is expected to grow by about 6.1 percent annually over the next 20 years as airplane technology continues to increase fuel efficiency, opening new international routes that were previously unattainable. Flights between Africa and Europe continue to account for the largest share of the region's air travel, although the market share is decreasing and is projected to continue the decline during the forecast period. Adding in the traffic between Africa and the Middle East and within Africa, a virtual tie for the second largest traffic flows, the top three constitute more than 86 percent of the total capacity, with intra-Africa being the fastest growing by net capacity. This growth, combined with the need to replace the region's aging fleet, will result in a demand for 1,150 new airplanes. While the majority of the demand will be for 810 single-aisle airplanes, the need for new widebody airplanes will also increase as air travel continues to grow among the expanding African middle class and long-distance visitors.

C.I.S.

CURRENT ECONOMIC HEADWINDS DELAY LONG-TERM FUTURE GROWTH

2016 will prove to be another trying year for Russia and the Commonwealth of Independent States (CIS). With a projected 2.3 percent decline in the Russian GDP, only modest improvements in energy pricing, and continuing economic sanctions, the region will continue to struggle toward growth gains. However, countries less dependent on energy exports do offset the aggregate GDP decline to 0.9 percent, offering a glimpse of slow recovery back to growth territory within the next three years.

As a consequence of the economic and political challenges within the region and internationally, aviation demand within the CIS is projected to grow at a modest 3.1 percent through 2020. In 2015, a 23 percent reduction in the value of an already weakened ruble served to constrain international travel. But owing to the unique geographic demands of the CIS-member countries, which span twelve time zones, domestic traffic over 1000 kilometers has seen an impressive 13.9 percent increase in passengers carried in 2015 compared to the previous year. While the ruble remains weak against the US dollar and the euro, Russians and other CIS citizens will spend more of their discretionary income in domestic markets.

OPPORTUNITIES FOR NEW MARKETS

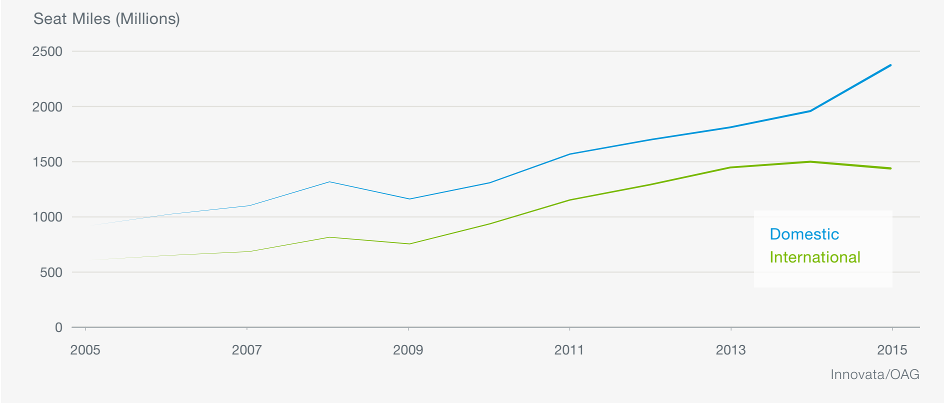
The economic turmoil has resulted in a retrenchment for many CIS airlines. In the near term, the net result is overcapacity, particularly for long-haul airplanes used for international travel. However, the development of low-cost carriers (LCCs) in the marketplace is creating new opportunities for more efficient use of airplanes, both domestically and in markets immediately adjacent to CIS countries. There has been a slightly increased liberalization of Russia's regulatory policy that had prevented the development of LCCs. The emergence of low-cost carriers in the marketplace should create demand for new single-aisle airplanes, which is estimated to be 810 over the next 20 years.

LONG-TERM OUTLOOK

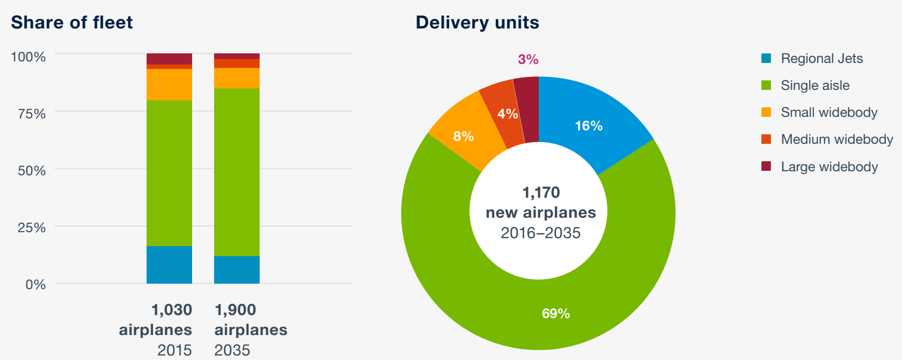
As the political and economic situation improves, international travel will rebound along with a requirement in the region for more twin-aisle airplanes. International traffic is expected to grow at an annual rate of 4.8 percent over the next 20 years. Concurrently, the development of low-cost carriers within the CIS market space will spur demand for single-aisle airplanes. CIS airlines will need 810 single-aisle and 170 widebody airplanes to handle the increased traffic. Additionally there is now pent-up demand for replacing an increasingly aging fleet of Russian-built airplanes. Together with older, western-built airplanes, 47 percent of deliveries will be used to replace existing stock.

It is estimated that 190 regional jets, both western and Russian built, will be required over the next twenty years; this demand is being driven by the growth that the intra-CIS region has been experiencing.

Domestic travel growing as airlines look for opportunities to expand



C.I.S. market value: $140 billion



C.I.S. Key indicators and new airplanes

Growth Measures (%)	
Economy (GDP)	2.5
Traffic (RPK)	3.7
Airplane fleet	3.1

	New airplanes	Share by size (%)
Large widebody	30	3
Medium widebody	50	4
Small widebody	90	8
Single aisle	810	69
Regional jet	190	16
Total	**1,170**	

Market size	
Deliveries	1,170
Market value	$140B
Average value	$120M

	2015 fleet	2035 fleet
Large widebody	50	50
Medium widebody	20	70
Small widebody	140	170
Single aisle	650	1,380
Regional jet	170	230
Total	**1,030**	**1,900**

DATA

PASSENGER TRAFFIC

AIRLINE PASSENGER TRAFFIC, GROWTH BY REGIONAL FLOW

RPKS in billions	2008	2009	2010	2011	2012	2013	2014	2015	2035	2015 - 2035
Africa -Africa	41.6	43.9	48.7	51.1	54.5	53.7	56.6	59.2	223.3	6.9%
Africa - Europe	**125.6**	**128.2**	**135.5**	**134.1**	**140.4**	**140.4**	**146.5**	**153.2**	**387.5**	**4.7%**
Africa - Middle East	24.9	32.9	36.4	39.4	48.6	50.8	53.7	59.5	235.9	7.1%
Africa - North America	**6.3**	**8.8**	**11.3**	**11.4**	**12.6**	**12.2**	**12.5**	**12.7**	**41.7**	**6.1%**
Africa - Southeast Asia	5.4	4.1	5.6	5.9	4.6	4.2	3.7	3.7	13.0	6.5%
Central America - Central America	**32.3**	**29.8**	**31.3**	**32.2**	**33.8**	**36.5**	**38.7**	**42.5**	**99.3**	**4.3%**
Central America - Europe	83.3	77.1	73.8	73.7	78.3	82.1	87.4	95.3	213.8	4.1%
Central America - North America	**115.8**	**104.7**	**112.7**	**114.5**	**132.0**	**138.3**	**153.0**	**170.1**	**478.1**	**5.3%**
Central America - South America	13.1	14.0	18.3	19.2	23.2	28.5	30.8	34.2	98.5	5.4%
China - China	**236.5**	**287.4**	**335.4**	**380.1**	**411.3**	**460.8**	**509.2**	**564.7**	**1897.4**	**6.2%**
China - Europe	82.5	77.3	82.1	94.2	96.7	96.9	105.2	121.1	356.7	5.5%
China - North America	**62.7**	**60.9**	**71.4**	**85.4**	**87.1**	**89.5**	**98.1**	**107.5**	**394.6**	**6.7%**
China - Northeast Asia	48.4	43.2	51.8	51.5	60.9	60.7	66.2	73.0	180.7	4.6%
China - Oceania	**21.4**	**22.8**	**27.4**	**31.4**	**34.1**	**35.0**	**37.7**	**44.3**	**131.1**	**5.6%**
China - Southeast Asia	50.6	45.3	54.7	63.0	73.8	82.5	89.4	109.9	422.1	7.0%
CIS Region - CIS Region	**88.9**	**76.9**	**87.6**	**103.1**	**107.1**	**118.3**	**125.3**	**138.1**	**256.8**	**3.2%**
CIS Region - International	77.7	83.6	101.6	124.1	139.4	157.9	164.9	151.9	389.1	4.8%
Europe - Europe	**660.5**	**624.9**	**640.2**	**659.5**	**676.6**	**714.0**	**760.3**	**796.8**	**1482.1**	**3.2%**
Europe - Middle East	115.2	131.2	143.8	153.3	178.0	196.8	210.9	242.5	690.2	5.4%
Europe - North America	**432.4**	**405.4**	**418.6**	**430.2**	**432.9**	**441.8**	**462.7**	**475.0**	**840.2**	**2.9%**
Europe - Northeast Asia	69.0	59.4	64.3	63.8	75.9	74.3	77.8	81.3	139.9	2.7%
Europe - South America	**75.2**	**79.3**	**82.9**	**89.8**	**99.6**	**102.4**	**102.1**	**104.4**	**293.1**	**5.3%**
Europe - South Asia	55.5	51.3	53.8	54.1	53.9	56.4	57.2	57.5	176.7	5.8%
Europe - Southeast Asia	**101.5**	**95.9**	**97.1**	**100.4**	**106.6**	**105.3**	**108.0**	**111.3**	**254.1**	**4.2%**
Middle East - Middle East	63.4	68.6	77.9	82.4	76.5	86.3	91.7	102.2	253.6	4.6%
Middle East - North America	**29.5**	**41.6**	**45.7**	**50.3**	**57.1**	**63.2**	**73.7**	**88.3**	**259.0**	**5.5%**
Middle East - South Asia	49.5	64.8	75.1	83.0	87.3	95.1	100.5	114.4	485.8	7.5%
Middle East - Southeast Asia	**45.4**	**46.7**	**56.3**	**61.3**	**66.4**	**79.0**	**89.4**	**97.6**	**281.0**	**5.4%**
North America - North America	974.1	915.1	946.3	976.3	984.7	998.4	1029.9	1077.7	1808.7	2.6%
North America - Northeast Asia	**139.4**	**120.2**	**128.4**	**135.4**	**149.0**	**150.4**	**154.0**	**160.5**	**231.1**	**1.8%**
North America - Oceania	32.3	34.8	34.9	38.3	40.3	43.1	43.3	48.3	105.5	4.0%
North America - South America	**52.7**	**56.9**	**60.9**	**66.7**	**72.0**	**79.2**	**82.7**	**86.9**	**263.9**	**5.7%**
North America - Southeast Asia	9.3	10.3	10.3	11.3	10.7	9.8	9.6	10.8	38.8	6.6%
Northeast Asia - Northeast Asia	**84.9**	**81.9**	**84.6**	**81.9**	**92.6**	**103.9**	**107.6**	**112.5**	**155.9**	**1.6%**
Northeast Asia - Oceania	20.8	15.1	18.1	16.6	17.1	15.9	15.9	17.2	34.4	3.5%
Northeast Asia - Southeast Asia	**87.7**	**74.3**	**79.6**	**92.3**	**104.9**	**113.3**	**124.2**	**134.6**	**283.0**	**3.8%**
Oceania - Oceania	72.0	73.3	78.4	83.8	92.0	99.0	100.0	102.8	257.4	4.7%
Oceania - Southeast Asia	**57.4**	**54.7**	**61.1**	**66.9**	**71.5**	**77.8**	**83.2**	**80.0**	**219.7**	**5.2%**
South America - South America	81.6	86.9	115.8	134.4	141.9	147.4	155.7	159.1	509.7	6.0%
South Asia - South Asia	**40.1**	**43.8**	**49.5**	**58.6**	**63.8**	**68.1**	**71.4**	**79.2**	**487.6**	**9.5%**
Southeast Asia - South Asia	24.3	21.9	28.5	29.2	34.0	36.2	38.4	40.4	222.7	8.9%
Southeast Asia - Southeast Asia	**93.2**	**96.0**	**113.1**	**130.7**	**145.1**	**166.6**	**176.9**	**194.0**	**848.1**	**7.7%**
Rest of World	55.5	69.3	87.9	97.4	116.0	126.1	140.0	148.2	651.7	7.7%
Grand Total	**4,639.2**	**4,564.2**	**4,938.7**	**5,262.2**	**5,585.0**	**5,898.0**	**6,246.0**	**6,664.5**	**17,093.0**	**4.82%**

AIRPLANES REQUIRED

PASSENGER AND FREIGHTER AIRPLANES
Market value and demand by region

DEMAND AND VALUE BY REGION

Region	$B	Airplanes
Asia	$2,350	15,130
Europe	$1,120	7,570
North America	$1,030	8,330
Latin America	$350	2,960
Middle East	$770	3,310
C.I.S.	$140	1,170
Africa	$170	1,150
World	**$5,930**	**39,620**

DELIVERIES BY AIRPLANE SIZE AND REGION

Region	Regional jets	Single aisle	Small widebody	Medium widebody	Large widebody	Total deliveries
Asia	290	11,160	2,060	1,490	130	15,130
North America	1,520	5,440	930	420	20	8,330
Europe	130	5,880	960	570	30	7,570
Middle East	70	1,510	560	850	320	3,310
Latin America	140	2,530	260	30	0	2,960
C.I.S.	190	810	90	50	30	1,170
Africa	40	810	240	60	0	1,150
World	**2,380**	**28,140**	**5,100**	**3,470**	**530**	**39,620**

MARKET VALUE BY AIRPLANE SIZE AND REGION*

Region	Regional jets	Single aisle	Small widebody	Medium widebody	Large widebody	Total deliveries
Asia	$10	$1,210	$560	$520	$50	$2,350
North America	$70	$570	$220	$160	$10	$1,030
Europe	$10	$640	$260	$200	$10	$1,120
MIddle East	$0	$160	$150	$320	$140	$770
Latin America	$10	$270	$60	$10	$0	$350
Africa	$0	$80	$70	$20	$0	$170
C.I.S.	$10	$70	$30	$20	$10	$140
World	**$110**	**$3,000**	**$1,350**	**$1,250**	**$220**	**$5,930**

* 2015 $B catalog prices. Values above 10 have been rounded to nearest 10.

PASSENGER AND FREIGHTER AIRPLANES
In service and future fleet

TOTAL AIRPLANES IN SERVICE

Size	2015	2035
Regional jet	2,600	2,510
Single aisle	14,870	32,280
Small widebody	2,660	6,060
Medium widebody	1,640	3,690
Large widebody	740	700
Total	**22,510**	**45,240**

AIRPLANE DEMAND

Size	$B	Airplanes
Regional jet	$110	2,380
Single aisle	$3,000	28,140
Small widebody	$1,350	5,100
Medium widebody	$1,250	3,470
Large widebody	$220	530
Grand total	**$5,930**	**39,620**

PASSENGER AIRPLANES IN SERVICE

Size	2015	2035
Regional jet	2,550	2,480
Single aisle	14,280	31,050
Small widebody	2,080	5,140
Medium widebody	1,390	3,090
Large widebody	440	470
Total	**20,740**	**42,230**

PASSENGER AIRPLANE DEMAND

Size	$B	Airplanes
Regional jet	$110	2,380
Single aisle	$3,000	28,140
Small widebody	$1,270	4,720
Medium widebody	$1,100	3,020
Large widebody	$180	430
Grand total	**$5,660**	**38,690**

FREIGHTER AIRPLANES IN SERVICE

Size	2015	2035
Widebody	1,130	1,750
Standard	640	1,260
Total	**1,770**	**3,010**

FREIGHTER AIRPLANE DEMAND

Size	$B	Airplanes
Large*	$190	550
Medium widebody	$80	380
Grand total	**$270**	**930**

* Large passenger and large freighter categories differ

FLEET DEVELOPMENT

PASSENGER AND FREIGHTER AIRPLANES
Market value and fleet development

MARKET BY AIRPLANE SIZE

Size	Market value 2015, $B	Market share value	New airplane deliveries	Market share units
Large*	$220	4%	530	1%
Medium	$1,250	22%	3,470	9%
Small	$1,350	23%	5,100	13%
Total widebody	**$2,820**	**48%**	**9,100**	**24%**
Total single aisle	**$3,000**	**51%**	**28,140**	**71%**
Total regional jets	**$110**	**2%**	**2,380**	**6%**
Total fleet	**$5,930**	**100%**	**39,620**	**100%**

PASSENGER FLEET DEVELOPMENT

Size	End of year 2015	Removed from service	Converted to freighter	New deliveries 2016 - 2035	End of year 2035
Large*	440	400		430	470
Medium	1,390	1,320		3,020	3,090
Small	2,080	1,660		4,720	5,140
Total widebody	**3,910**	**3,380**		**8,170**	**8,700**
Total single aisle	**14,280**	**11,370**		**28,140**	**31,050**
Total regional jets	**2,550**	**2,450**		**2,380**	**2,480**
Total fleet	**20,740**	**17,200**	**1,440**	**38,690**	**42,230**

FREIGHTER FLEET DEVELOPMENT

Size	End of year 2015	Removed from service	Converted to freighter	New deliveries 2016 - 2035	End of year 2035
Widebody	1,130	710		930	1,750
Standard body	640	420		0	1,260
Total freighter fleet	**1,770**	**1,130**	**1,440**	**930**	**3,010**

TOTAL FLEET

Size	End of year 2015	Removed from service	Converted to freighter	New deliveries 2016 - 2035	End of year 2035
Passenger fleet	20,740	17,200	1,440	38,690	42,230
Freighter fleet	1,770	1,130	1,440	930	3,010
Total fleet	**22,510**	**18,330**	**1,440**	**39,620**	**45,240**

* Large passenger and larger freighter categories differ

FLEET BY REGION

FLEET GROWTH
by size and region

FLEET BY AIRPLANE SIZE

Size	Airplanes in service 2015	Fleet share 2015	Airplanes in service 2035	Fleet share 2035
Large	740	3%	700	2%
Medium	1,640	7%	3,690	8%
Small	2,660	12%	6,060	13%
Total widebody	**5,040**	**22%**	**10,450**	**23%**
Total single aisle	**14,870**	**66%**	**32,280**	**71%**
Total regional jets	**2,600**	**12%**	**2,510**	**6%**
Total fleet	**22,510**	**100%**	**45,240**	**100%**

FLEET BY REGION IN 2015

Region	Regional jets	Single aisle	Small widebody	Medium widebody	Large widebody	Total fleet
Asia	140	4,540	860	540	270	6,350
North America	1,730	4,010	750	320	100	6,910
Europe	270	3,370	440	360	170	4,610
Latin America	110	1,280	140	20	0	1,550
Middle East	70	590	250	320	140	1,370
C.I.S.	170	650	140	20	50	1,030
Africa	110	430	80	60	10	690
World	**2,600**	**14,870**	**2,660**	**1,640**	**740**	**22,510**

FLEET BY REGION IN 2035

Region	Regional jets	Single aisle	Small widebody	Medium widebody	Large widebody	Total fleet
Asia	310	12,560	2,340	1,590	170	16,970
North America	1,520	6,630	1,150	460	60	9,820
Europe	150	5,920	1,140	610	100	7,920
Latin America	160	3,110	350	40	0	3,660
Middle East	80	1,660	610	840	320	3,510
C.I.S.	230	1,380	170	70	50	1,900
Africa	60	1,020	300	80	0	1,460
World	**2,510**	**32,280**	**6,060**	**3,690**	**700**	**45,240**

MAJOR TRAFFIC FLOWS

AIRLINE TRAFFIC FLOWS
by region

TRAFFIC IN 2015

RPKs	Asia	North America	Europe	Middle East	Latin America	Africa
Asia	**60%**	15%	16%	37%	1%	7%
North America	13%	**48%**	21%	11%	37%	4%
Europe	14%	21%	**34%**	30%	28%	49%
Middle East	11%	4%	10%	**13%**	-	19%
Latin America	0%	11%	9%	-	**34%**	1%
Africa	1%	1%	7%	7%	0%	**19%**
Total traffic to and from region	100%	100%	100%	100%	100%	100%

TRAFFIC IN 2035

RPKs	Asia	North America	Europe	Middle East	Latin America	Africa
Asia	**63%**	18%	19%	43%	1%	9%
North America	10%	**40%**	17%	10%	37%	4%
Europe	11%	19%	**30%**	26%	25%	39%
Middle East	14%	6%	14%	**10%**	-	24%
Latin America	0%	16%	10%	-	**35%**	2%
Africa	1%	1%	8%	9%	1%	**22%**
Total traffic to and from region	100%	100%	100%	100%	100%	100%

Bold: Share within region. Sum data down the table only. Excludes other small flows that are not included in the summary table (less than 1% of each region).

How to read the tables:
Read down the selected column; for example:

In 2015, traffic within North America accounted for 48% of all the total traffic to, from and within North America.

In 2035, traffic within North America will account for 40% of all the total traffic to, from and within North America.

MAJOR TRAFFIC FLOWS

AIRLINE TRAFFIC FLOWS
by region

AIRLINE PASSENGER GROWTH RATES 2015–2035

RPKs	Africa	Latin America	Middle East	Europe	North America	Asia
Asia	7.2%	6.4%	6.9%	4.7%	4.5%	**6.2%**
North America	6.1%	5.4%	5.5%	2.9%	**2.6%**	
Europe	4.7%	4.8%	5.4%	**3.2%**		
Middle East	7.1%	-	**4.6%**			
Latin America	9.1%	**5.6%**				
Africa	**6.9%**					

AIRLINE PASSENGER TRAFFIC IN 2015

RPKs in billions	Africa	Latin America	Middle East	Europe	North America	Asia
Asia	21.2	4.0	298.2	371.3	338.0	**1573.5**
North America	12.7	257.0	88.3	475.0	**1077.7**	
Europe	153.2	199.7	242.5	**796.8**		
Middle East	59.5	-	**102.2**			
Latin America	4.0	**235.9**				
Africa	**59.2**					

AIRLINE PASSENGER TRAFFIC IN 2035

RPKs in billions	Africa	Latin America	Middle East	Europe	North America	Asia
Asia	85.0	13.7	1141.4	927.4	819.4	**5225.9**
North America	41.7	742.0	259.0	840.2	**1808.7**	
Europe	387.5	506.9	690.2	**1482.1**		
Middle East	235.9	-	**253.6**			
Latin America	13.7	**707.5**				
Africa	**223.3**					

AIRPLANE MARKET SECTOR DEFINITIONS

Bold: Airplanes in production or launched.

SINGLE AISLE PASSENGER AIRPLANES

	Single Aisle	Regional Jets
Boeing 707, 757	**AVIC ARJ-900**	**Antonov An-148, -158**
Boeing 717, 727	BAe 146-300, Avro RJ100	**AVIC ARJ-700**
Boeing 737-100 through -500	**Bombardier CRJ-1000**	Avro RJ70, RJ85
Boeing 737-600, -700, -800, -900ER	**Bombardier CS100, CS300**	BAe 146-100, -200
Boeing 737-MAX7, MAX8, MAX9	**Embraer 190, 195**	**Bombardier CRJ**
Airbus A318, A319, A320, A321	**Comac C919**	Dornier 328JET
Airbus A319neo, A320neo, A321neo	Fokker 100	**Embraer 170, 175**
Boeing/MDC DC-9, MD-80, -90	UAC MS 21-200/300	Embraer ERJ-135/140/145
	Illyushin IL-62	Fokker 70, F28
	Tupolev TU-154, **TU-204, TU-214**	**Mitsubishi MRJ**
	Yakovlev Yak-42	**Sukhoi Superjet 100**

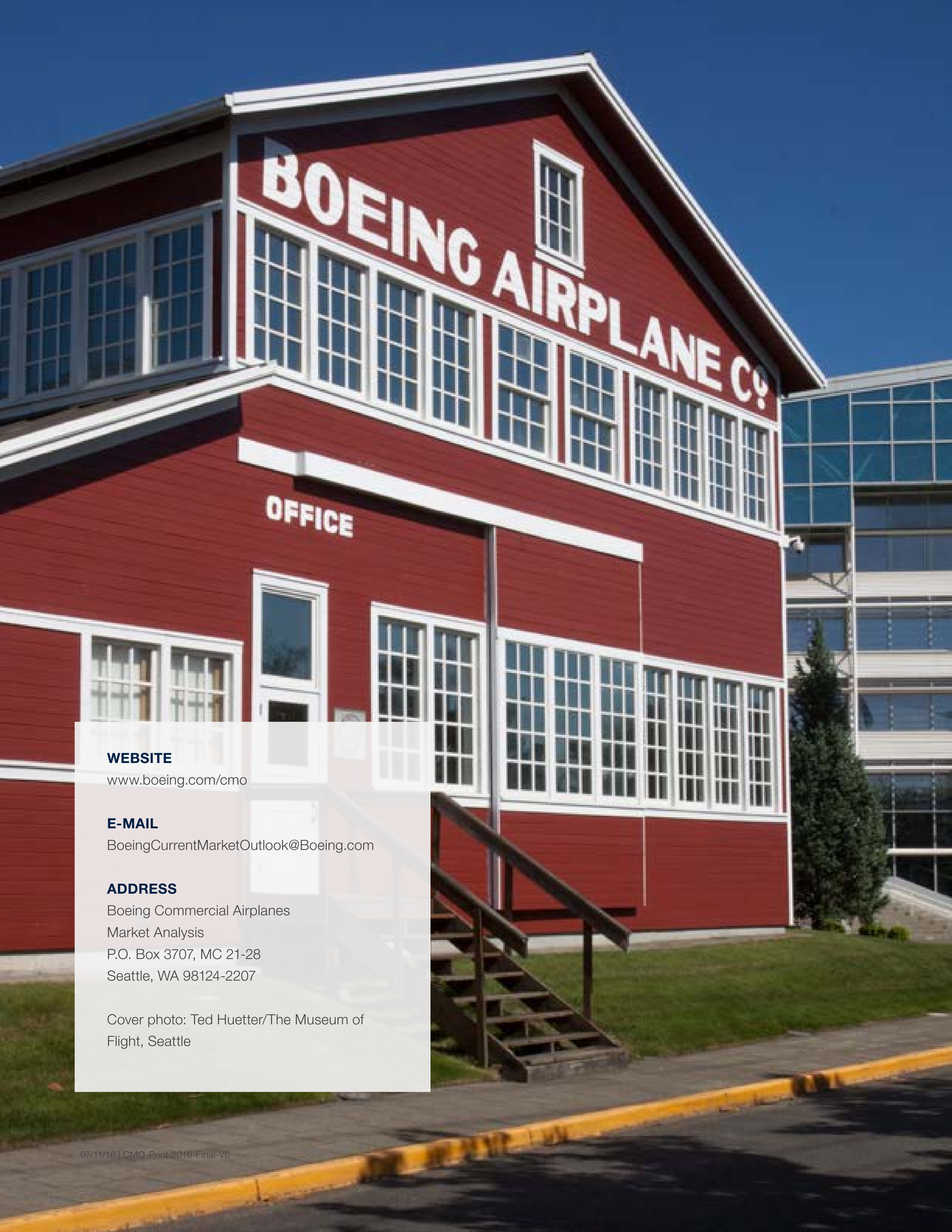
WIDEBODY PASSENGER AIRPLANES

LARGE *Three class: more than 400 seats*	**MEDIUM** *Two class: 340 to 450 seats* *Three class: 300 to 400 seats*	**SMALL** *Two class: 230 to 340 seats* *Three class: 200 to 300 seats*
Boeing 747-8	**Boeing 777, 777X**	**Boeing 767, 787-8, -9**
Boeing 747-100 through -400	**Boeing 787-10**	Boeing/MDC DC-10
Airbus A380	Boeing/MDC MD-11	Airbus A300, A310
	Airbus A340	**Airbus A330-200, -300, -800, -900**
	Airbus A350-1000	**Airbus A350-800, -900**
	Illyushin IL-86	Lockheed L-1011
		Illyushin IL-96

FREIGHTER AIRPLANES

LARGE FREIGHTER *More than 80 tonnes*	**MEDIUM FREIGHTER** *40 to 80 tonnes*	**SMALL FREIGHTER** *Less than 45 tonnes*
Boeing/ MDC MD-11	Boeing 767	BAe 146
Boeing 747-100 through -400	Lockheed L-1011SF	Boeing/MDC DC-8/9
Boeing 777	Boeing /MDC DC-10	Boeing 737
Airbus A350	Boeing 787	Boeing 727
Illyushin IL-96T	Airbus A300	Tupolev Tu-204
Antonov An-124	Airbus A330	Boeing 707
747-8F	Illyushin IL-76TD	Boeing/MDC MD-80
		Boeing 757-200
		Airbus A320, A321

Production and conversion (SF) models assumed for each type unless otherwise specified



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